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ILLINOIS MEDICAL JOURNAL

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Send original articles and all communications relating to advertisements to Dr. Charles J. Whalen, Editor, 6231 Kenmore Avenue, Chicago.

Membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 7626 Bosworth Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

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Editorial

THE ANNUAL MEETING OF THE ILLINOIS STATE MEDICAL AT QUINCY, MAY 19-20-21

You should attend the annual meeting of the State Society; death or serious illness are the only unanswerable legitimate excuses for absence. You owe it to your State Society, to yourself, to your professional brethern, your family and your patients, to attend and participate in the proceedings of this gathering. Bring the family along, that you may the more fully enjoy the social and vacational features of the occasion. Make a vacation, brief though it may be, of these days and relax from the strain and deadly routine of the regular day's work.

Take part in the scientific program, that you may not profit by the dissertations of those presenting prepared theses but that you may contribute to the sum total medical knowledge those things that you have learned in the course of actual practise. Exchange of ideas is the healthy basis of our conventions. You will find it profitable to give to, as well as to receive from, your co-workers in science and art; in fact, it is only through active participation in the general discussions or private conferences, and by the interchange of thought and experiences that you can secure the full benefit of the meeting. Your contribution, though in your modesty deemed very small, may be of great importance to someone,—it is conceivable that it may supply the missing link in some highly important studies.

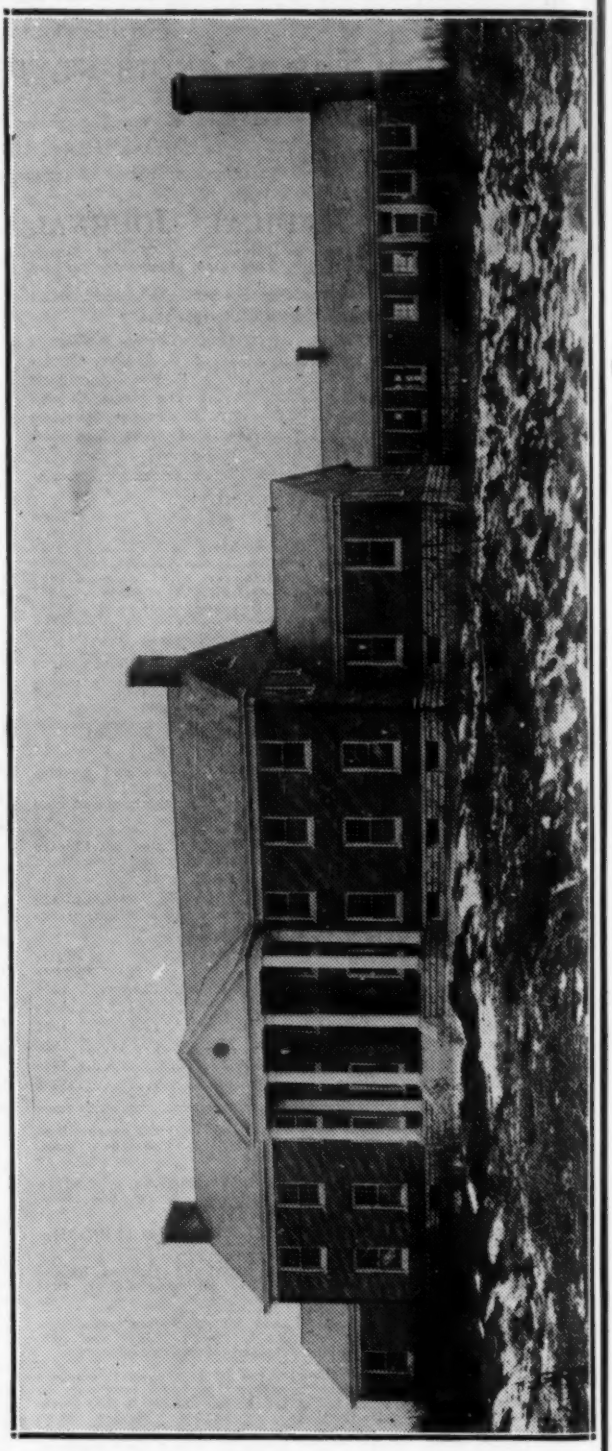
Remember that if you do not attend the session or do not give expression to your views and preferences, you have no one but yourself to blame for the results. These meetings are held for the purpose of bringing all members into conference and for taking a consensus of opinion on policies and on the selection of representatives to conduct the Society work. Play your part; or you must perforce hesitate to complain of unsatisfactory developments.

QUINCY MEETING, 1925

Long before Father Marquette discovered the Mississippi River and sailed down by the spot where Quincy is now located, this Bluff which over-looks the River was a meeting place for "Good Indians." True to its tradition, the Quincy medical profession hopes that there will be a recrudescence of this spirit; and the Good Indians of the medical profession of Illinois will make this point a meeting place for good fellowship and bumping elbows, as it were, with their colleagues, as well as drinking at the fountain of scientific knowledge. We would not imply that the latter is not the biggest factor in medical progress—since our general program is full of it—but the social side of our lives is often neglected.

This year, being the 75th Anniversary of the organization of the Illinois State Medical Society, as well as the Adams County Medical Society, will mark an epoch in the medical affairs in the middle west. In keeping with this Diamond Jubilee, an unusual program has been arranged. A Smoker has been arranged for Wednesday evening, and good vaudeville, good music, and good "eats" have been arranged for. During the time that this Smoker will be held, an entertainment for the wives of the visiting members has been arranged for in the form of a Theater Party—to which "Friend Wife" is cordially invited. On one of the days of the meeting, an auto trip will be arranged for the ladies to Mark Twain's old home and the Hannibal Cave made famous by this noted author of Huckleberry Finn—Hannibal being but a short distance across the river. A Symposium by the four Medical Colleges of Chicago will be a part of the scientific program. The Members of the Faculty of the respective institutions taking part in same—this new feature in Medical Society affairs will naturally appeal to the Alumni, and a friendly rivalry is looked for. Dr. Geo. W. Crile of Cleveland will deliver the address on Surgery, and Dr. Charles P. Emmerson of Indianapolis will deliver the address on Medicine. The officers of the different sections assure us that the program in their sections will be interesting and instructive.

Quincy is the largest city between Chicago and Kansas City, and is on the border line between



Illinois and Missouri, just below the Iowa line. It is interesting to note that the geographical center of the United States is a few miles north, while the center of population is a few miles east of Quincy. Its present population is well over 40,000, and its Parks are known the world over, comprising 375 acres over-looking the valleys and along the streams and creeks. As an educational center, it ranks high—Chaddock School, a Methodist Institution, and Quincy College, which is conducted by the Franciscan Fathers, and the Gem City Business College, which trains annually between 1,200 and 1,300 pupils. Its Public Library is one of the best in the State, containing 35,000 volumes.

Municipal Swimming Pool, South Park

The City of Quincy is the largest industrial center in the Mississippi Valley, west of Chicago and north of St. Louis. It has a greater number of industries than the combination in the Upper Mississippi Valley or in the State of Illinois, west of the Illinois River; and Quincy makes a greater variety of articles of commerce and utilities than any other City on the Mississippi river—Chicago and St. Louis excepted. Its manufactured products go to all parts of the World—among them are stoves, furnaces, metal wheels, tractors, farming impliments, incubators, poultry supplies, pumps, governors, dyes, shoes, phonographs, elevators, boilers, structural steel, clothing and paper.

All the above information is valuable and worth while, but the part that will appeal to the average physician, who attends medical meetings of his profession, that the local medical profession is made up of a lot of men who will be good scouts and hospitable, if you will give them a chance to entertain you by coming to the meeting next month. We suggest that those who

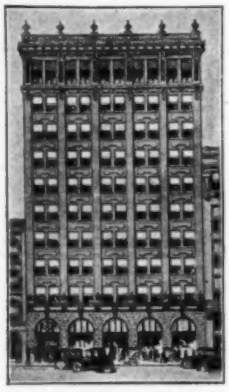
come by train, secure a Certificate of Purchase when they buy their ticket, which will be validated at Quincy, and enable the members to return home at half-fare rates. It will be necessary for, at least, 150 visiting members to do this, in order, to induce the railroad to make this concession. Quincy is situated on the C. B. & Q., the Wabash, and the K. Line from St. Louis, which route southern Illinois Members will find more convenient. Those who wish to travel by auto will find the Hard Roads (Route 31) a convenience with a possible interruption by a few miles of dirt road, which obtains but a short distance.

New Elks Club

Illinois State Bank Building

Quincy College

George Rogers Clark Monument, Riverview Park



Western Catholic Union Bldg.

In the language of the kid that called, "Skinney, C'on over. Run like everythin'."

WARREN PEARCE,
Chairman Arrangement Committee.

H. P. BEIRNE,
Chairman Program and Publicity.

THE QUINCY MEETING

The seventy-fifth annual meeting of the Illinois State Medical Society will be held, as in former years, during the third week of May, 19-20-21. This meeting will be an epoch making one since it will be the Diamond Jubilee Meeting of our state society, as well as that of our hosts, the Adams County Medical Society, both societies having been organized in 1850. An unusual and interesting program is being arranged for, both by the program committee, and the local committee of arrangements. Everything points toward a large attendance, since few of the men now in active practice in Illinois will ever again have an opportunity to attend a jubilee meeting—most of us will have crossed the Great Divide, when the one hundredth milestone in organized medicine shall have been reached. The Hotel Quincy will be headquarters; reservations may be made by addressing the manager, Hotel Quincy; other hotels, all European, are Newcomb Hotel, Virginia Hotel, Park Hotel, Hasse Hotel. Quincy is one of the most westerly points in Illinois. Physicians residing in the northern part of Illinois, Chicago, etc., may reach us via Burlington Route; those coming from eastern part of the state may conveniently use the Wabash; while those from southern Illinois will obtain better service via St. Louis. Through train service may be had on all of above lines. Some may wish to drive via hard roads; to these will say there is a gap of dirt road about 50 miles east of here which may, if season should be wet, make travel by auto difficult, while if weather should be pleasant, the few miles of dirt roads will not cause any serious inconvenience. A good program, with some novel features, and a good time are assured. We take the liberty to suggest that the secretary of each respective county society will read above at their next regular meeting. Quincy will be glad to entertain you. Let's go.

WARREN PEARCE,
General Chairman, Committee of Arrangements.

H. P. BEIRNE,
Chairman Publicity and Program Committee.

REUNION AND DINNER OF THE MEDICAL OFFICERS OF THE WORLD WAR

An attractive feature of the annual meeting of the American Medical Association at Atlantic City will be the reunion of the medical men who served their country in the Army and Navy during the World War, to renew the memories, friendships and associations of those eventful days. The Chief Surgeon of the A. E. F. will be there, and the President of the Association of Military Surgeons, Surgeon General Hugh E. Cumming, and other officers of the Association under whose auspices the meeting will be held. An effort will be made to group together those who served in the same organizations and so it is requested that reservations be made as early as possible, and that comrades state in writing for them the base hospital or other medical unit to which they belonged. Write for tickets to Colonel Burt R. Shurly, Med.-Res., U. S. A., 62 West Adams Ave., Detroit, Michigan.

TIME AND PLACE—May 27th, at 7 P. M., at the Ritz-Carlton Hotel, Atlantic City.

Members of the Association of Military Surgeons are requested to wear the badge of the Association.

SEND THEM TO BED WITH A KISS

O mothers, so weary, discouraged,
Worn out with the cares of the day.
You often grow cross and impatient,
Complain of the noise and the play;
For the day brings so many vexations,
So many things going amiss;
But, mothers, whatever may vex you
Send the children to bed with a kiss!

The dear little feet wander often,
Perhaps, from the pathway of right,
The dear little hands find new mischief
To try you from morning till night;
But think of the desolate mothers
Who'd give all the world for your bliss
And as thanks for your infinite blessings,
Send the children to bed with a kiss!

For some day their noise will not vex you,
The silence will hurt you far more;
You will long for their sweet childish voices,
For a sweet childish face at the door;
And to press a child's face to your bosom,
You'd give all the world for just this!
For the comfort 'twill bring you in sorrow,
Send the children to bed with a kiss!

—*New Orleans Picayune.*

ILLINOIS STATE MEDICAL SOCIETY

SEVENTY-FIFTH ANNUAL MEETING

Quincy, Illinois, May 19-20-21, 1925

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D. B. Penniman....1st District, Rockford, 1926
E. E. Perisho.....2nd District, Streator, 1926
S. J. McNeill.....3rd District, Chicago, 1926
G. B. Dudley.....8th District, Charleston, 1926
Andy Hall.....9th District, Mt. Vernon, 1927
R. R. Ferguson.....3rd District, Chicago, 1927
H. P. Beirne.....6th District, Quincy, 1927

ILLINOIS MEDICAL JOURNAL

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Walter Stevenson.....Quincy
Grant Irwin.....Quincy
W. W. Williams.....Quincy

MEETINGS OF THE HOUSE OF DELEGATES

Tuesday Evening, May 19, 1925

Elks Club Auditorium

9:00—Meeting called to order by the president, L. C. Taylor, for reports of Officers, Committees, and other business to come before the house.

Thursday Morning May 21, 1925

Chamber of Commerce

8:00—Meeting called to order by the President for the election of officers, reports of committees and other unfinished, and new business.

ENTERTAINMENT

On Tuesday afternoon, May 19, it is planned to take the ladies on an automobile trip down the river to Hannibal, Mo., to visit the Mark Twain Cave, and other points of interest. Dinner will be served at Hannibal.

Wednesday, May 20, another automobile trip is planned for the ladies, to start at 10:00 o'clock. At 3:00 P. M., a Bridge Tea will be given at the

Country Club. Wednesday evening, there will be a theater party for the ladies.

For the Members of the Society and Guests, there will be a smoker entertainment and lunch Wednesday evening, May 20, at 9:00 o'clock. The nature of the program has not been announced by the committee on arrangements, but it will be an excellent one.

A number of Alumni and Fraternity Banquets will be held during the meeting and will be announced on the bulletin boards.

GENERAL SESSIONS

Elks Club Auditorium

Tuesday Evening, May 19, 1925

7:30—Call to order of the Society by the President, L. C. Taylor. Invocation, Rev. Robert L. Logan. Address of Welcome, Mayor Frank A. Jasper. Report of the Committee on Arrangements, Warren Pearce, Quincy. Address—William Allen Pusey, President, American Medical Association, Chicago.

Wednesday Afternoon, May 20, 1925

1:30—Meeting called to order by First Vice-President John R. Neal. President's Address, L. C. Taylor, Springfield. "Some of the Present and Future Problems of the Medical Profession".

2:15—Oration in Medicine:—"Hippocrates or Paracelsus". Charles P. Emerson, Dean and Professor of Medicine, Indiana University School of Medicine, Indianapolis.

3:15—Oration in Surgery: "Hyperthyroidism and Peptic Ulcer—An Analogy," George W. Crile, Professor of Surgery, Western Reserve University School of Medicine, Cleveland.

Thursday Morning, May 21, 1925

8:00—Symposium, Northwestern University Medical School. Industrial Surgery: 1. Study of the Treatment of Injuries to the Hand, Sumner L. Koch, Chicago. 2. Acute Intestinal Obstruction, Wm. R. Cubbins, Chicago. 3. Surgery of the Thorax, Ralph B. Bettman, Chicago.

9:20—Symposium, University of Illinois School of Medicine. Differential Diagnosis: 1. The Abdomen, Edward Louis Heintz, Chicago. 2. The Chest, Maurice Lewison, Chicago and W. J. Quigley, Chicago.

10:40—Symposium, Loyola University School of Medicine. Goiter: 1. Surgical Considerations, E. L. Moorhead, Chicago. 2. Medical Considerations, Chas. L. Mix, Chicago. 3. Pathological Considerations, Lloyd Arnold, Chicago. 4. Eye Considerations, Richard J. Tivnen, Chicago.

Thursday Afternoon, May 21, 1925

1:30—Report of the House of Delegates. Induction of the President-Elect.

1:45—SECRETARIES' CONFERENCE.

W. C. Blaine, President.

Harold Swanberg, Vice-President.

J. S. Templeton, Secretary.

1. Why Jefferson County Has a 100% Membership—J. W. Hamilton, Secretary Jefferson County Society, Mt. Vernon.
   Discussion by E. W. Fiegenbaum, Secretary Madison County Society, Edwardsville.
2. Improving the Attendance and Interest in the County Society Meetings—Ralph Graham, Secretary Warren County Society, Monmouth.
   Discussion by R. R. Ferguson, Secretary Chicago Medical Society.
3. The County Society, and County Secretary's Relation to the State Secretary—Wm. D. Chapman, Silvis, Ex-Secretary Illinois State Medical Society.
4. The Interests of the Medical Profession now before our State Legislature—John R. Neal, Chairman Legislative Committee, Springfield.
5. What We Expect of the County Secretary the Coming Year—J. C. Krafft, President-Elect Illinois State Medical Society, Chicago.
6. The Secretaries' Conference in 1926—Harold Swanberg, Secretary Adams County Society, Quincy.

Dr. Franklin H. Martin of Chicago, Chairman of the Board of the Gorgas Memorial Institute of Tropical Medicine, will talk on the Gorgas Memorial work of the past year, and what is planned for the future.

The American Association for Medical Progress will be represented at the meeting by Dr. Llewellyn Sale of St. Louis, who will give a short talk on the work of that organization.

The talks of Dr. Martin and Dr. Sale will be

given at the first general session on Tuesday evening May 19, 1925.

SECTION PROGRAMS

SECTION ON MEDICINE

Elks Club Auditorium

Tuesday, May 19, 1:00 P. M.

J. H. Hutton, Chairman, Chicago.

B. V. McClanahan, Secretary, Galesburg.

1. Fifty Years of Medical Progress—Charles B. Johnson, Champaign.
2. Feeding the Normal Baby—F. Emerson Inks, Princeton.
   Discussion opened by S. H. Kraft, Chicago.
3. Relation of Psychic Disturbances to Head Injuries—George W. Hall, Chicago.
   Discussion opened by L. H. Sloan, Chicago, and C. G. Farnum, Peoria.
4. The Diagnosis of So-called Toxic Adenoma and Exophthalmic Goiter—Wilbur L. Bowen, Peoria.
   Discussion opened by J. K. P. Hawks, Bloomington.
5. Treatment of Scarlet Fever and Its Complications—Archibald Hoyne, Chicago.
   Discussion opened by George Weaver, Chicago.
6. Oral Mycosis with Report of Case—Dudley W. Day, Rockford.
   Discussion opened by John Tuite, Rockford.
7. Dangers and Safeguards of Alkali Treatment of Peptic Ulcers—L. C. Gatewood, Chicago.
   Discussion opened by A. A. Goldsmith, Chicago.
8. Pyelitis of the New Born—Robert H. Graham, Aurora.
   Discussion opened by James Wallace, Oak Park and G. L. Kaufman, Chicago.
9. Treatment of Gonorrhea—A. E. Mowry, Chicago.
   Discussion opened by Damon Brown, Madison, Wis.
10. Alzheimer's Disease, with lantern slides—Frank Parsons Norbury, Jacksonville.
    Discussion opened by Charles F. Read, Chicago.
11. Outlook for T. B. Patients—Henry C. Sweany, Chicago.
    Discussion opened by Clarence Wheaton, Chicago.
12. The Ambulant Treatment of Hernia—G. A. McDonald, Fairfield.
    Discussion opened by J. E. Dixon, Fairfield.
13. A Study of One Hundred and Twenty Male Epileptics—Thomas G. Hall and Charles F. Read, Chicago.
14. Child Hygiene, Edith B. Lowry, Springfield.

SECTION ON SURGERY

Chamber of Commerce

Tuesday, May 19, 1:00 P. M.

Ben D. Baird, Chairman, Galesburg.

Philip H. Kreuscher, Secretary, Chicago

1. Some Phases of the Cancer Question—Carl E. Black, Jacksonville.
   Discussion opened by Henry Schmitz, Chicago.
2. Intestinal Anastomosis From the Anatomical and Tecnical Standpoint—Walter J. Sullivan, Chicago.
   Discussion opened by M. S. Griffith, Galesburg.
3. Traumatism of the Head—H. C. Mitchell, Carbondale.
   Discussion opened by Wm. R. Cubbins, Chicago.
4. Prognosis of Intracranial Tumors; Motion Picture Demonstration—Loyal E. Davis, Chicago.
   Discussion opened by Charles P. Blair, Monmouth.
5. Plastic Repair of Defects of the Scalp—Everett P. Coleman, Canton.
   Discussion opened by Carl Beck, Chicago.
6. Fractures of the Head of the Femur—Frederick Christopher, Chicago.
   Discussion opened by Ralph McReynolds, Quincy.
7. Diaphragmatic Hernia—J. W. Dreyer, Aurora.
   Discussion opened by C. Matthews, Chicago.
8. Thrombo-Angiitis Obliterans—John D. Claridge, Chicago.
   Discussion opened by J. K. P. Hawks, Bloomington.
9. Fractures of the Neck of the Humerus—Clyde A. Finley, Galesburg.
   Discussion opened by S. C. Woldenburg, Chicago.
10. Some Practical Points in the Diagnosis and Treatment of Acute Pancreatitis—John A. Wolfer, Chicago.
    Discussion opened by Homer F. Moore, Rockford.

11. Reclaiming Hopeless Chest Cases; Presentation of Cases—Don Deal, Springfield.
Discussion opened by Emil Beck, Chicago.
12. Pre-operative and Post-operative Treatment of Prostatic Adenomata—Frank M. Phifer and D. F. Rudnick, Chicago.
Discussion opened by Ray Edgar Barrows, Cairo.

SECTION ON EYE, EAR, NOSE AND THROAT

W. R. Fringer, Chairman, Rockford
Chas. M. Robertson, Secretary, Chicago.

Diagnostic and Demonstration Clinics

Odd Fellows' Hall

Tuesday, May 19, 9:00 A. M.

1. Nature and Causes of Disorders of Speech—Elmer L. Kenyon, Chicago.
2. The History of Spectacles—James E. Lebensohn, Chicago.
3. Glaucoma—Harry W. Woodruff, Chicago.

2:00 P. M.

4. Lesions of the Optic Chiasm—George F. Suker, Chicago.
5. Affections of the Ear in General Disease—George W. Boot, Chicago.
6. Surgical Treatment of Ethmoiditis—Harry L. Pollock, Chicago.

(The section banquet will be held at the Country Club Tuesday evening.)

Wednesday, May 20, 8:00 A. M.

Odd Fellows' Hall

1. Preventable Accidents in Cataract Operations—William A. Fischer, Chicago.
Discussion opened by C. C. Clement, Chicago.
2. Is Malaria an Etiologic Factor in Iritis?—R. C. Matheny, Galesburg.
Discussion opened by A. L. Adams, Jacksonville.
3. Cholesteotoma Involving the Ethmoidal Cells and the Antrum of Highmore—G. C. Otrich, Belleville.
4. Ludwig's Angina—C. F. Yerger, Chicago.
Discussion opened by H. C. Ballenger, Chicago.
5. Defects in the Tone Scale, With Relation to Poor Spelling and Loss of Musical Tone—Frank L. Alloway, Champaign.
Discussion opened by Thomas J. Carmody, Danville.
6. Observations of the Fundus in General Paralysis of the Insane Through Administration of Hyparsemid, and a Comparison With Neo-Salvarsan. (Preliminary Report)—J. H. Roth, Kankakee.
Discussion opened by Solomon Jones, Danville.
7. Methods of Controlling Hemorrhage After Tonsillectomy—E. J. Nothenberg, Chicago.
Discussion opened by Albert H. Andrews, Chicago.
8. Focal Infections, Successes and Failures—Edwin McGinnis, Chicago.
Discussion opened by A. B. Middleton, Pontiac.
9. The Determination of Retinal Blood Pressure—James E. Lebensohn, Chicago.
Discussion opened by George F. Suker, Chicago.
10. Sarcoma of the Orbit—G. S. Duntley, Macomb.
Discussion opened by Walter Stevenson, Quincy.

SECTION ON PUBLIC HEALTH AND HYGIENE

Chamber of Commerce

Tuesday, May 19, 1:00 P. M.

D. J. Lynch, Chairman, Chicago.
C. H. Diehl, Secretary, Effingham.

1. Typhoid Fever Epidemic Evidently Due to Infected Oysters—C. T. Roome, Evanston.
Discussion opened by S. S. Winner, Chicago.
2. Some Public Health Problems, Revealed by the Medical Histories of High School Graduates—J. Howard Beard, Urbana.
3. Prevention of Goiter—E. P. Sloan, Bloomington.
Discussion opened by J. H. Hutton, Chicago.
4. The Responsibility of the Medical Profession to the Rising Generation—June L. Edmondson, Chicago.
Discussion opened by Elizabeth B. Ball, Springfield.
5. Rural Water Supplies and Sewerage—Harry F. Ferguson, Illinois Chief Sanitary Engineer, Springfield.
6. The Public Health Nurse as a Factor in Medical School Inspection—Mrs. Madge D. Reiseman, R. N., Chicago.
7. The County Health Unit—Thomas Parran, Jr., U. S. Public Health Service, Springfield.

Discussion opened by C. E. Price, Robinson, Director of Crawford County Unit.

8. The Cancer Prevention Problem in Urology —Lewis Wine Bremerman, Chicago.
   Discussion opened by Walter C. Willhelmj, East St. Louis.
9. Factors in the Reduction of Typhoid in the City of Chicago—John Dill Robertson, Chicago, Ex-Health Commissioner of Chicago.
10. Public Health Problems as Related to Mental Diseases—Chas. F. Read, Chicago.
11. Public Health Work as Viewed by One in General Practice for the Last Quarter of a Century—Jas. S. Templeton, Pinckneyville.
    Discussion opened by Wm. E. Shastid, Pittsfield.
12. Public Health, and the Medical Profession in Illinois—H. N. Heflin, Kewanee.
    Discussion opened by L. O. Frech, Decatur.

All papers read by members shall be limited to twenty minutes and remarks in discussion to five minutes, floor privilege being allowed only once for the discussion of any one subject.

All papers read before the Society or any of its sections shall become the property of the Society. Each paper shall be deposited with the Secretary when read and the presentation of a paper to the Illinois State Medical Society shall be considered tatamount to the assurance on the part of the writer that such paper has not already appeared and shall not appear in medical print before it has been published in the ILLINOIS MEDICAL JOURNAL.

A paper not heard in its scheduled turn, shall be held subject to the call of the Chairman of the section at the end of that regular session, if time permits;—or as an alternative at the end of the program.

All discussions shall be confined strictly to the subject in hand.

No paper shall appear in the printed transactions of the meeting, unless read in full or in abstract.

EXHIBITORS

Fellows Medical Manufacturing Company, 26 Christopher St., New York City.

Universal Sales Company, Quincy, Illinois.

The Abbott Laboratories, 4753 Ravenswood Ave., Chicago.

Flint, Eaton & Company, Decatur, Illinois.

Sharp & Smith, 65 East Lake St., Chicago.

Deshell Laboratories, 589 East Illinois St., Chicago.

Standard Oil Company of New Jersey, New York City.

Chas. H. Phillips Company, 80 Varick St., New York City.

Mead Johnson Company, Evansville, Ind.

Camerons Surgical Specialty Company, 110-12 W. Oak St., Chicago.

American Optical Company—F. A. Hardy Div.—10 S. Wabash Ave., Chicago.

John McIntosh Company, 1880 Ogden Ave., Chicago.

The Laboratory Products Company, Cleveland, Ohio.

G. D. Searle & Co., 4611-17 Ravenswood Ave., Chicago.

Burdick Cabinet Company, Milton, Wisconsin.

Physicians Supply & Drug Company, 425-27 So. Honore Street, Chicago.

C. V. Mosby & Company, 508 North Grand Blvd., St. Louis.

Huston Brothers Company, 30 East Randolph St., Chicago.

Horlicks Malted Milk Company, Racine, Wisc.

Acme-International X-Ray Company, 341 W. Chicago Avenue, Chicago.

Radium Chemical Company, Marshall Field Annex Bldg., Chicago.

Merrell-Soule Company, Syracuse, New York.

Sutliff & Case Company, Peoria, Illinois.

A. S. Aloe Company, 513 Olive St., St. Louis.

Lavoris Chemical Company, Minneapolis.

Frank S. Betz Company, Hammond, Indiana.

Mellins Food Company, Boston, Mass.

W. B. Saunders Company, West Washington Square, Philadelphia.

Brown Drug Company, Quincy, Illinois.

Hettinger Brothers Company, St. Louis, Mo.

Illinois Tuberculosis Association, 516½ East Monroe St., Springfield, Ill.

Swan-Myers Company, Indianapolis, Indiana.

Special Products Company, O'Fallon, Illinois.

Hanovia Chemical & Mfg. Co., Chestnut St. & N. J. R. R. Ave., Newark, N. J.

H. G. Fischer & Company, 2333-35 Wabansia Ave., Chicago.

Medical Protective Company, Fort Wayne, Ind.

Ciba Company, Inc., Cedar & Washington Sts., New York City.

Standard Chemical Company, Des Moines, Ia.

In addition to the commercial exhibits there

will be many scientific and educational exhibits from the American Medical Association, Illinois Dental Society, the Medical Schools, American Association for Medical Progress, and other organizations interested in Health Work.

ILLINOIS PUBLIC HEALTH LABORATORY ASSOCIATION

Third Meeting, May 19, 1925

Quincy Hotel, Quincy, Illinois.

9:00 a. m. Meeting of Council.

9:30 a. m. Morning Session.
Address of Welcome.
Reports of Officers and Committees.
Miscellaneous and New Business.
Election of Officers.
Address of Retiring President, "Laboratory Work in the Tornado Zone of Southern Illinois."

12:15 p. m. Noon Luncheon—Quincy Hotel.
Round table discussion.

1:30 p. m. Afternoon Session—Scientific Program:

1. The Diagnosis and Prevention of Hay Fever. John R. Porter, Rockford.
2. Present Technic of the Wassermann Reaction. Dr. Mary H. Swan, National Pathological Laboratories, Chicago.
3. Methods for the Study of Anerobes in Raw and Putrified Sewage (with demonstration). John F. Norton and Frank E. Greer, University of Chicago.
4. Practical Methods for Isolation of the Gonococcus. Dr. John L. White, Department of Health, Chicago.
5. Increasing Importance of Blood Chemistry in Laboratory Diagnosis. Dr. Henry C. Sweany, Municipal Tuberculosis Sanitarium, Chicago.
6. The Widal Test as Carried out in Public Health Laboratories. Thomas G. Hull, State Department of Public Health, Springfield, Ill.
7. Underwater Lighting of Swimming Pools. B. Norman Bengtson, University of Illinois, College of Medicine, Chicago.

PRIZES TO BE AWARDED AT THE NATIONAL BABY CONGRESS AND HEALTH EXPOSITION, CHICAGO, MAY 2nd-9th, '25, UNDER THE SUPERVISION OF THE ILLINOIS STATE MEDICAL SOCIETY

GRAND AWARD

Five hundred dollars to the highest scoring boy or girl between the ages of 1 and 6 years. This amount is now on deposit in the Boulevard Bridge Bank, contributed by the Chicago Portrait Photo Association.

Silver cup to be presented to the mother of the highest scoring child. Contributed by the Chicago Herald Examiner.

Three silver cups to highest scoring boy under 1 year—highest scoring girl under 1 year—highest scoring pair of twins. Contributed by the Nestle Food Company, New York, N. Y.

Two hundred dollars Add-A-Pearl necklace to the highest scoring girl in the Healthy Youth Contest (between the ages of 6 and 18 years). Contributed by the Add-A-Pearl Company.

White gold watch, 19 jewel to the highest scoring boy in the Healthy Youth Contest (between the age of 6 and 18 years). Contributed by the Illinois State Medical Society.

Northwestern Railroad and Pullman ticket to and from Eagle River, Wisconsin (summer resort), to the highest scoring woman in the Adult Health Contest (over 18 years of age). Contributed by the Illinois State Medical Society.

Northwestern Railroad and Pullman ticket to and from Eagle River, Wisconsin (summer resort), to the highest scoring man in the Adult Health Contest (over 18 years of age). Contributed by the Illinois State Medical Society.

Five hundred dollars equity in a lot located in Evanston subdivision to the highest scoring woman in the Adult Health Contest, open to all

over 18 years of age. Contributed by the North Shore Realty Company.

DIVISION AWARDS

Division 1, children 6 to 12 months of age—
Highest scoring boy $25.00
Highest scoring girl 25.00
Division 2, children 12 to 36 months of age—
Highest scoring boy $25.00
Highest scoring girl 25.00
Division 3, children 36 to 72 months of age—
Highest scoring boy $25.00
Highest scoring girl 25.00
Division 4, twins 6 to 72 months of age—
Highest scoring pair.....$25.00
2nd highest scoring pair..... 15.00
Division 5, triplets 6 to 72 months of age—
Highest scoring set.....$25.00
2nd highest scoring set..... 15.00
Division 6, colored children 6 to 72 months of age—
Highest scoring boy $25.00
Highest scoring girl 25.00

SPECIAL AWARDS

The following banks offer $25.00 savings account for the highest scoring children in their respective neighborhoods:

Ashland State Bank.
Boulevard Bridge Bank.
Bowmanville National Bank.
Bankers State Bank.
Capitol State Savings Bank.
Citizens State Bank of Chicago.
Fidelity Trust & Savings Bank.
Garfield Park State Savings Bank.
Inland Trust and Savings Bank.
Logan Square State & Savings Bank.
Madison & Kedzie State Bank.
Phillips State Bank.
Roosevelt State Bank.
Second Security Bank of Chicago.
State Bank & Trust Company.
Suburban Trust & Savings Bank.
Washington Park National Bank.
West Side Trust and Savings Bank.
Liberty Trust & Savings Bank.

LIST OF EXHIBITORS

A revised and comprehensive list of exhibitors at the National Baby Congress and Health Exposition will be published in the June JOURNAL.

SIMPLICITY MUST REPLACE SUPERFICIALTY IN FUNDAMENTAL EDUCATION OR ALL SYSTEMS WILL FAIL

REPETITIOUS PREPARATORY REQUIREMENTS WASTE TIME AND MONEY AND IMPEDE EFFICIENCY

MODERN MEDICAL TEACHING FALLS WITHIN GROUP ARRAIGNED BY FAMOUS EDUCATORS

Pleas for abridgement of preparatory training arise from educators the country over. Cognizance must be taken of the fact that the ablest years of a man's life are wasted before he even enters upon his chosen profession because of the rigors and repetitions,—unnecessary and wasteful,—that clog fundamental education for the professions.

Superficialty and ennui coupled with extravagance from an economic standpoint, both of time and of money, are three of the defects resulting from current educational systems. Teaching of medicine is one of the most glaring examples of the misuse of youth, time and wealth in almost endless repetitious processes of preparation. There is so much preparation there is scarcely time left for accomplishment.

Superficialty such as comes of too much making ready and not enough achievement, is a blot upon school hours and an ineradicable stain upon later life. To say the least, such a handicap is costly. In a recent report of the Carnegie Foundation for the Advancement of Teaching Dr. Pritchett suggests a first practical step to obviate this error.

Says Dr. Pritchett: "No nation can continue to offer sixteen years of preparatory education to its students, of this superficial sort, and meet its needs in educational training. If the work of education were rightly done, no such time ought to be required, and no nation can afford to turn its trained men into their professions so late in life as we are coming to do. Without question four years can be dropped out of this programme, with advantage to the cause of education, and to the interest of the people and of their children. But this change also is clearly related to that conception of education which assumes that the beginnings of education lie in the sincere learning of a few things, rather than in the superficial acquaintance of many."

"We in the United States have been disposed to pride ourselves on the variety of the courses of study offered in our schools, but rarely can one

find an American boy or girl, even among the graduates of the high school or college, who knows his own language as the English boy trained in the somewhat classical conception, knows the language. And rarely do we find an American youth who knows his science or language in the way a German boy is master of these subjects. The striking characteristic of our schools under the process of enrichment of curriculum, is superficialty, coupled with tremendously rising cost. There is only one way to better the quality of education, to diminish the cost and to give a fair reward to the teacher. That is to adopt a concept of the elementary school, of the high school, and of the college, that shall offer courses of study founded on the principle that whatever variation of courses may be offered it shall always be understood that the fundamental things shall be thoroughly mastered."

Continuance of the present wasteful system will inevitably result in "national intellectual famine." Fatal to a student, fatal to the mental life of his country is the "graduation idea" that "a presentable smattering is life's maximum requirement." To re-organize this defective system is a task crying for immediate and efficient remedy . . . . . one that will ease the strain upon parents, teachers and children. Those beset with the "standardization" idea have in the current educational system, a fit target and a needy institution for their assistance and enlightenment.

To be successful, this renovation must cleave itself free from dependence upon European thought and system, and insist upon an enfranchisement of American ideas, ideals and thought. True scholarship is as simple and free as the true patriotism that made the United States possible as a prosperous democracy. True scholarship demands the creation of a *highly developed sense of duty and of work, and of a comparatively inhibited sense of play. There is not enough of incorporation of relative values into the daily work of the schoolroom. Fundamental education is considered now, by students at large, not as a vital segment of life work, but as a thoroughly extraneous thing apart.*

Conde B. Pallen says truthfully enough "Modern education has fallen under the blight of pseudo-science,—not genuine science but a false interpretation of scientific theories,—which are neither established, nor if established, would carry the applications, to which popular expounders would push them. When you divide man into a number of things which dehumanize him, he ceases to be a man. If he is merely a bundle of nerve-ganglia, a chemical compound, and his rational part a ferment of endocrine glands, he is simply a suitable subject for the laboratory. Here is the real secret of the failure of modern education of which Dr. Nicholas Murray Butler complains."

Says Dr. Butler in part, barraging against the current educational system, "A State monopoly of schools is wholly un-American, and may come to mean compulsory paganism. . . . . education is the responsibility primarily not of the State, but of the family, and so far as religion is concerned, of the Church."

Which is a neat way of epitomizing the flagrant truth that modern educational systems, in an endeavor to gild the lily of culture by outdoing in ramifications and ubiquitousness both tradition and experience, are falling upon the common fate of every jack-of-all-trades . . . . . humiliating failure.

Now is the time for educators of all classes to take stock of what is happening. And among those who make inventory, none need to look more closely than the directors of current medical education.

A LAWYER NEEDS NO CONSCIENCE

A doctor and a lawyer took a ride into the country and lost their way. They inquired of a farmer as to their whereabouts. In the conversation the farmer invited them to take a little bite to eat before starting home.

After a plain meal, they seated themselves on the porch and told stories. Every story by the doctor or the lawyer ended up in a jeer on farmers. "Now, then, Mr. Farmer," said the lawyer, "it seems you ought to tell a story."

"There was a certain prominent physician who had a serious operation to perform on one of his patients," said the farmer. "During the operation the physician became rather nervous and excited, and instead of removing the membrane he was after, accidentally took out the man's conscience."

Here the farmer stopped.

The lawyer inquired, "Well, what because of the patient? Did he get well?"

"Oh, yes," replied the farmer, "but having his conscience taken out he was not fit for anything else, so he studied law."—*Judge.*

A Corporation Practicing Medicine.

Is The Public Health Institute In Chicago Operating Within the Law?

Under date of April 17, 1925, the Public Health Institute sent to a select list of Doctors the following letter which we publish for your information, comment and action.

OFFICERS
A. A. CARPENTER, PRESIDENT
T. R. GOWENLOCK, VICE-PRESIDENT
MYRON E. ADAMS, SECRETARY
ROBERT A. GARDNER, TREASURER
JOSEPH G. BERKOWITZ, M. D. MEDICAL DIRECTOR

PUBLIC HEALTH INSTITUTE
ORGANIZED FOR PUBLIC SERVICE AS A CORPORATION NOT FOR PROFIT
GENERAL OFFICES:
159 NORTH DEARBORN STREET
PHONE DEARBORN 8877-78-79-80
WOMEN'S DEPARTMENT, 72 E. RANDOLPH STREET
MEN'S DEPARTMENT, 159 N. DEARBORN STREET SOUTH SIDE, 129 E. 31ST STREET
GENERAL LABORATORIES, RESEARCH DEPARTMENT } 159 N. DEARBORN STREET
CHICAGO

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ROBERT A. GARDNER
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NOBLE BRANDON JUDAH
NATHAN WILLIAM MAC CHESNEY
HAROLD F. MCCORMICK
BRIG. GEN. JAMES A. RYAN

April 17th, 1925.

Dear Doctor:

The Public Health Institute cordially invites you to inspect its "NEW DEPARTMENT FOR MEN" occupying four floors at 159 N. Dearborn St., on Friday, April 24th, between the hours of 10:00 A.M. and 9:00 P.M. There will be brief addresses by prominent national leaders at 2:30 P.M. and 8:00 P.M.

Five years ago, a group of public spirited Chicago business men, prompted to action as a result of their war experiences, set to work on a cooperative citywide effort to aid Chicago in the treatment, control and prevention of Social Diseases, and organized the Public Health Institute. It was Not for Profit but for Public Service.

During the past five years, the Institute has given more than 1,000,000 treatments to some 60,000 patients and today the average daily attendance is more than 1200. In spite of the low fee charged, the Institute has, because of its effective organization, been self-supporting. No one has been turned away for lack of money.

The Institute has supported and cooperated with research work through Northwestern University and the University of Wisconsin for the discovery and improvement of drugs useful in the treatment of venereal diseases. It has also granted a fund to the Social Hygiene Council for educational work.

The NEW DEPARTMENT FOR MEN is furnished with the most modern equipment for the treatment, comfort and care of patients. The increased number of treatment rooms permits of greater privacy and adds to the general efficiency of operation. Two thousand patients can be cared for daily in this new department.

Because of your interest in public welfare, we are anxious to have you see what we are providing and doing. Public knowledge of the ideals and purposes back of the work of the Institute and public confidence in the character of the service rendered, are two of the largest factors in winning the fight against these diseases which menace the welfare of our City and its Citizens.

Please take this opportunity to inspect the Institute.

Very sincerely yours,

PUBLIC HEALTH INSTITUTE,

Myron E. Adams, Secretary.

EA-BN

SUBSCRIBE TO THE LAY EDUCATIONAL FUND

If This Constructive Work Is to Continue Funds Must Be Provided

The fund subscribed a year and a half ago by a comparatively few doctors, for the purpose of inaugurating the Lay Educational Bureau of the Illinois State Medical Society, is exhausted. Not one penny of the original fund was injudiciously spent. Results far-reaching in importance to the medical profession have thus far been accomplished by the Lay Educational Committee.

If the valuable work is to continue, additional money must be forthcoming. An appeal for subscriptions for this worth while enterprise was mailed to members of the profession a few weeks ago.

The lay education campaign cannot be prosecuted without funds; it must be supported by popular subscription. It is hoped that every doctor will subscribe to this worthy cause. Serious disease diverted from the incompetent will result in the saving of thousands of lives and will prevent much permanent invalidism.

This campaign will achieve two great objectives. A gradual, but ultimate restoration of the medical profession to its merited place in the public sympathy and confidence and the inestimable benefits to humanity through the consequent prevention of disease and the preservation of life.

For the convenience of those who have mislaid their letter of appeal from the State Society, we hereby reproduce the pledge card:

Please sign and mail to the Illinois State Medical Society.

To the Officers of the Illinois State Medical Society and Members of the Council:

"I am in accord with the educational campaign, unanimously adopted by the House of Delegates of the Illinois State Society at the 1922 meeting and the plan recommended by the Council of the Society, and as evidence of my desire to cooperate with the officers of the council and of the State Society, I hereby enclose my check for $..... to aid in defraying the expenses thereof:

MAKE CHECKS PAYABLE TO THE ILLINOIS STATE MEDICAL SOCIETY

Name .....M. D.
Street .....
City .....County .....

Sign the above pledge card, make out a check payable to the Illinois State Medical Society and mail both in an envelope addressed as follows:

From
.....
.....
.....

ILLINOIS STATE MEDICAL SOCIETY,
c/o Cashier, Sheridan Trust and Savings Bank,
4738 Broadway, Chicago, Ill.

Below is a list of subscribers from Chicago and Cook County to the Lay Educational Fund as per letter sent physicians early in April soliciting funds and cooperation.

CHICAGO AND COOK COUNTY SUBSCRIBERS

COOK COUNTY

L. H. Abele, Chicago
Frank W. Allen, Chicago
Thos. D. Allen, Chicago
W. G. Alexander, Evanston
Geo. C. Amerson, Chicago
E. B. Anderson, Chicago
A. M. Barothy, Chicago
H. R. Baumgarth, Chicago
Geo. E. Baxter, Chicago
F. J. Berger, Chicago
F. A. Berry, Chicago
James G. Berry, Chicago
Frank Billings, Chicago
M. L. Blatt, Chicago
Warren Blim, Chicago Heights
D. F. Brawley, Chicago
Frank L. Brown, Chicago
W. L. Calloway, Chicago
R. G. Collins, Chicago
E. W. Crass, Chicago
Frank Deacon, Chicago
Frank H. Deane, Berwyn
E. A. Degenhardt, Chicago
Jos. B. DeLee, Chicago
O. J. Dewitz, Chicago
I. A. Dittmore, Chicago
E. J. Doering, Jr. (Chicago Medical Society Bulletin), Chicago
C. A. Earle, Des Plaines
A. O. Ellison, Chicago
N. R. Engels, Chicago
R. R. Ferguson, Chicago
Anders Frich, Chicago
Geo. Galloway, Chicago
Lester E. Garrison, Chicago
I. C. Gary, Chicago
C. O. Getty, Chicago
John Phillip Gibbs, Chicago
Sol M. Goldberger, Chicago
Philip Gotlieb, Chicago
H. V. Gould, Chicago
R. E. Graves, Chicago
E. A. Gray, Chicago
Herbert W. Gray, Chicago
G. W. Green, Chicago
L. L. Gregory, Chicago
L. Grotowski, Chicago
C. A. Haines, Chicago
F. E. Haines, Chicago
R. L. Halcombe, Chicago
F. P. Hammond, Chicago
M. L. Harris, Chicago
J. T. Hart, Chicago
Dr. Augustus A. Haerther, Chicago
H. E. Hickman, Chicago
Frank A. Hill, Chicago
M. H. Hobart, Evanston
Frank F. Hoffman, Chicago
Wm. E. Holland, Chicago
P. E. Hopkins, Chicago
M. J. Hubeny, Chicago
R. M. Hutchison, Chicago
J. H. Hutton, Chicago
H. E. Irish, Chicago
Ernest A. Irons, Chicago
Warren Johnson, Chicago
L. R. Joslyn, Maywood
W. L. Kacin, Chicago
M. O. Kagy, Chicago
Emmet Keating, Chicago
Rob't C. King, Chicago
H. H. Kleinpell, Chicago
John M. Krasa, Chicago
Geo. B. Lake, Chicago
Geo. R. Leonard, Chicago
Edmund D. Levisohn, Chicago
Edward Luehr, Chicago
Paul T. Lyon, Chicago
Sidney B. MacLeod, Chicago
P. B. Magnuson, Chicago
L. Maywit, Chicago
L. L. McArthur, Chicago
M. McGowan, Chicago
Wm. D. McNally, Chicago
Nels C. Meling, Chicago
W. B. Metcalf, Chicago
G. A. Miller, Chicago
C. L. Mix, Chicago
W. E. Morgan, Chicago

E. W. Mueller, Chicago
J. F. O'Hara, Chicago
A. B. Oyen, Chicago
Edward Patera, Chicago
Fred A. Patton, Glencoe
M. Penchina, Chicago
W. A. Plice, Chicago
C. M. Pohl, Chicago
R. R. Ferguson, Chicago
Emil Ries, Chicago
M. M. Ritter, Chicago
C. C. Rogers, Chicago
Lawrence Ryan, Chicago
Alvah Sawyer, Chicago
Chas. P. Schell, Chicago
Chas. L. Schmidt, Chicago
C. L. Schmidt, Chicago
Henry Schmitz, Chicago
C. O. Schneider, Chicago
C. B. Semerak, Chicago
V. L. Sheets, Chicago
E. W. Smith, Chicago
Robert Sonnenschein, Chicago
Wm. G. Stearns, Chicago
J. G. Stromberg, Chicago
Theo Tieken, Chicago
Max Thorek, Chicago
I. Harrison Tumpeer, Chicago
V. R. Vanstone, Chicago
J. H. Walsh, Chicago
C. J. Whalen, Chicago
T. J. Williams, Evanston
G. V. Wyland, Chicago
Adam Yuska, Chicago
H. Zaczeck, Chicago

DOWN STATE SUBSCRIBERS TO THE LAY EDUCATIONAL CAMPAIGN FUND

Frank P. Auld, Shelbyville
O. F. Barnes, Arcola
J. G. Barnhizer, Forrest
C. E. Beecher, Gilson
C. Bennett, Champaign
R. M. Binney, Granite City, Ill.
C. Blim, Crete
T. V. Boyd, E. St. Louis
Earl Brennan, E. St. Louis
A. L. Brittin, Athens
E. L. Brown, Bloomington
Harry E. Brown, Tiskilwa
J. R. Bryant, West Point
W. F. Buckner, Watseka
Ward P. Burdick, Rockford
G. T. Cass, Danville
A. H. Claeboe, Waukegan
John O. Cletcher, Tuscola
E. P. Coleman, Canton
J. E. and E. P. Coleman, Canton
H. I. Conn, Newman
Wm. Cooley, Peoria
J. F. Cooper, Peoria
F. J. Coughlin, Aurora
R. H. Craig, Charleston
W. L. Crawford, Rockford
O. H. Crist, Danville
O. J. Culbertson, East St. Louis
A. B. Curry, Decatur
J. C. Dallenbach, Champaign
W. A. Dew, Belleville
A. E. Diller, Aurora
A. B. Dudley, Charleston
F. M. Edwards, Centralia
A. G. Everhart, Peru
J. Henry Fowler, East Moline
T. O. Freeman, Mattoon
J. W. Geiger, La Salle
C. W. Goddard, Harvard
W. F. Grinstead, Cairo
Andy Hall, Mt. Vernon
F. C. Hammitt, Hanna City
L. A. Harney, East St. Louis
J. M. Hayes, Decatur
H. G. Horstman, Murphysboro
Geo. Hoffman, Chester
G. H. Hoffman, Kewanee
W. D. Hohmann, Kewanee
H. C. Houser, Westfield
A. E. Hubbard, Peoria
W. L. Irwin, Plymouth
Johnson Clinic, Rockford
Solomon Jones, Danville
C. R. Kerr, Chenoa
R. P. Kile, Rockford
Tom Kirkwood, Lawrenceville
A. A. Knapp, Peoria
L. C. Knight, Carthage
F. J. Kotalik, Sherrard
L. J. Linder, East St. Louis
Marion County Medical Society
O. F. Maxon, Springfield
W. H. Mercer, Taylorville
B. V. McClanahan, Galesburg
I. E. McCorvie, Peoria
McDonough County Medical Society
J. C. McMillan, New Berlin
R. C. McMillan, Monmouth
John J. McShane, Springfield
F. E. Melugin, Thomson
Glenn E. Mershon, Mt. Carroll
J. E. Miller, Quincy
R. E. Miltenberger, Spring Valley
E. B. Montgomery, Quincy
J. R. Neal, Springfield
F. J. Otis, Moline
G. C. Otrich, Belleville
Geo. Thos. Palmer, Springfield
Arthur Parsons, Genesco
Drs. Patton and Blair, Monmouth
Mather Pfeiffenberger, Atlon
L. S. Reavley, Sterling
Henry Reis, Belleville
J. J. Rendelman, Cairo
D. C. Roach, Burlington
W. R. Roberts, Cisna Park
Mary L. Rosensteel, Freeport
Mary A. Sagner, Thomson
A. M. Shaw, Adrian
E. Grant Simpson, Naperville
C. S. Skaggs, East St. Louis
Karl Snyder, Freeport
John Huston Spyker, Decatur
O. O. Stanley, Decatur
A. F. Stotts, Galesburg
C. D. Swickard, Charleston
H. R. Sword, Milledgeville
R. Tharp, East St. Louis
G. Taphorn, Atlon
Chas. D. Thomas, Peoria
T. H. Trainor, Maple Park
Edward Tripple, O'Fallon
Oscar W. Tulisalo, Rockford
H. M. Voris, East St. Louis
T. H. Wagner, Joliet
Geo. A. Wash, Gibson City
L. J. Weir, Marshall
Whiteside County Medical Society
R. R. Whiteside, Moline
E. C. Williams, Downs
A. A. Wilson, Davis
L. H. Wiman, LaMoille
Geo. H. Woodruff, Joliet

Correspondence

LAY EDUCATION MAKES A HIT

Ottawa, Ill., May 1, 1925.

Miss B. C. Keller,
25 East Washington Street,
Chicago, Illinois.

Dear Miss Keller:

You may not have heard from Mrs. Lockwood regarding the public meeting held in Sandwich, Monday evening, April 27. There was quite a good turnout at the City Hall, perhaps a hundred or a hundred and fifty people present, and they all appeared to be quite interested.

At the meeting of the La Salle County Medical Society, Tuesday, it was voted that each member be assessed ten dollars for the lay education work. Personally, I think this is great stuff and that you are certainly accomplishing results.

You will remember that several months ago when I was in Chicago I mentioned the fact that Dr. East's clinics were to be discontinued after January 1. You may be interested to know that Dr. East has held two clinics at the Ryburn Memorial Hospital since January 1.

Yours truly,

R. T. PETTIT, M.D.

COUNTY HEALTH OFFICERS

Belvidere, Ill., January 18, 1925.

Dr. Don Deal,
Springfield, Ill.

Dear Doctor: I understand there is to be a bill introduced in the Legislature to establish a County Health Officer for each county in Illinois. Personally, I cannot see the need of such an officer—at least, not in Boone County. Is not a State Health Officer available at short notice, were his services needed? Is not the general health of each county well looked after, under the present system? Are people dying for the lack of medical attention, and is the sanitation in such a deplorable condition that epidemics are constantly breaking out? Are not the County Supervisors doing their work as to relief? I

wish to add just here that I have not received one cent from Boone County Supervisors for medical services for ten years. I can see a lot of trouble for the doctor who is doing honest work for his people, as soon as a Government official takes the field. The best and only true health center, or officer, is the office of an honest doctor and the service he renders to his people.

To me it is strange that the lawless American communities are in such a condition that they need more, and still more, supervision and government—especially the doctor. If one out of every ten persons is now in a Government office of some kind, we must indeed be a bad lot—the laity as well as the professions. To my notion, we are now overgoverned. The multitude of laws only breeds contempt for law.

I have not heard of a case of medical neglect in Boone County during twenty-six years of active work here, nor have we had epidemics of any kinds that were not handled in the most approved and scientific manner. I will go out and work for a law that will make every candidate for a legislative office pass a good examination in biology—that they may have some idea of the real need of legislation and where to apply it. Biologically, the average politician would rank with Protozoa—the way I view them. I wonder what percentage of them in the Legislative halls of the State of Illinois could show a high school education—not more than ten per cent, I'll bet.

With Volstead, Narcotic Laws, Insurance Papers, School Certificates, reports to Board of Health, and so on—every time we turn around, we must report. A doctor, with any kind of work, must needs have someone to do the reporting. After all of that, the Learned Legislator thinks it necessary to hamper the only honest, hard working, sacrificing servant of the public with still another swivel chair, or golf playing supervisor.

Doctor, in your experience, how many politicians have you seen who have had any idea of what they were trying to do—say nothing about an ideal. I asked one a short time ago why he voted for a certain bill. His answer was: "Well, we have to please the women, and when the wind is in the north you cannot stop it." That answer, I believe, will in the majority of cases be considered sufficient and valid in most instances by the politician.

Doctor, in your long acquaintance with the medical profession, do you believe them to be a bunch of crooked hoodlums, who need the supervision of a gang of political high-jackers, who make us walk the plank for the purpose of keeping themselves in office?

Are there not sufficient laws to keep us within the ethical code of morality, and agents to enforce them, without additional restraint being added and new rules made?

A politician is no less a politician because he has been appointed, rather than elected, so let us look for a moment at page 344 under the caption of "New Notes" in a pamphlet entitled "Illinois Health News." We find "A Correspondence Course of Instruction for Prospective Mothers Is Contemplated"—let us hope it is only "contemplated." That idea bears all the finger prints of a childless female—the eternal urge of the less intellectual and, therefore, less efficient mind, coupled with the overwhelming desire (because of a realization of that deficiency) to attract attention to themselves and hold a political position—exploiting their works is one of the glaring weaknesses of human beings.

Why take from the people their own opportunity for progress, that is, the power of self government, the ability to think for themselves, and make them slaves subjected to a centralized government with a spy and police system to rule?

Isn't it strange, doctor, how, when a few females are gathered together in the name of bridge, cross-word puzzle, or what not, a committee must be formed to promote pet legislation to wait upon the legislator and importune him to support their most important bill for the furthering of the welfare of the so-called "poorer classes," or to restrict the doctor in his work among them, to discuss social evils and morals in general of everyone from the President down.

Suppose, now, Mrs. A. elects to take the correspondence course. Suppose after the baby is born it gets sick and a doctor is called. This young mother who has had this course will think she is in possession of a fund of knowledge sufficiently great and authentic to warrant her in acting as a consultant in the case of her child. It will make no difference if the doctor called is an expert in pediatrics; has not this mother the swivel chair authority of a State Doctor, who has never seen the case?

While the people do not know what they are

voting for, and if they did, they would not get it, yet they do believe the State is ultimate authority. In the article about Young Mothers' Clubs, we are fed the sop that the young mothers are urged to have frequent examinations of their babes by the doctor—I wonder if these advocates of State Medicine think we are blind. I know if I were called to treat a baby and was confronted with any arguments as to its treatment, founded upon the authority of a correspondence course, I would depart at once from the case with all my belongings, as well as interest in the walfare of the child.

One could multiply the possible and probable detrimental circumstances that would likely arise many times over. It appears that the medical profession is about to be Russianized by ignorant, designing, wire pulling political propagandists working upon the more ignorant politician. Let those of us who desire it get our mess kits and stand in line for our soup. Those who wish, as scientists, to do the best we can for the people, who wish to learn and serve and make an honest living, take our dog sleds and start for Siberia.

Probably all of this tires you, doctor, but it is the expression of one of the more or less scorned—not only by the laity, but by his own profession—general practitioners in the field, who, nevertheless, has as a rule to do first handed with the problems of the health of the people.

Respectfully,

ALDEN ALGUIRE, President,

Boone County Medical Society.

LITERARY TASTE OF PATIENTS IS TOLD

ST. LUKE'S LIBRARIAN PUTS BAN ON THRILLERS

The literary taste of hospital patients has been analyzed in a report by Ruth Schmeisler, librarian at St. Luke's hospital, made public today.

Contrary to popular opinion, Miss Schmeisler finds patients in the shadow of death, instead of fortifying their faith by reading the scriptures or religious writings, prefer to follow their own bent in literature, and read the kind of books in which they are most interested.

The tastes of the men, she remarks, is, as a rule, rather higher than that of the women. The former prefer western tales, humor and stories dealing with adventure and the outdoors, while the latter seek entertainment in love stories.

Poe, though often requested, is prescribed as being overstimulating, especially to patients with weak hearts. Anna Katherine Green, Arthur B. Reeve and others of the thrill school, likewise are barred from the shelves.

"We diet the reading as we do the food," says the librarian. "Nurses always are consulted before the patient is allowed to have books. Detective stories and books that savor of excitement are excluded from the literary diet of our patients."

Zane Grey, James Oliver Curwood, Booth Tarkington, Henry Kitchell Webster and George Barr McCutcheon are always in demand, and are considered wholesome. Magazines like Judge and Life are worn out passing from bed to bed. Technical and geographical magazines are popular.

(From Chicago, Ill., Post, April 3, 1925.)

THE MENACE OF INTESTINAL TOXEMIA

Intestinal toxemia early leads to derangement of the metabolism, with poisoning, sooner or later, of the body cells and functional disturbance throughout the organism. It is easy to see, therefore, how various organic diseases may take their origin from toxins generated in the bowels, and it is mainly, if not entirely, on account of neglected habitual constipation that chronic diseases develop and progress.

If many chronic ailments are to be avoided or postponed as the years multiply, and the health of the average person is to be safeguarded and promoted, then it is of the utmost importance that regular and free evacuation of the bowel contents should be assured with requisite frequency. In attaining this object no remedial measure offers more satisfactory results than the administration of Agarol, a well-balanced combination of pure mineral oil, agar-agar and phenolphthalein. This fact has been conclusively proven and clinical experience has shown that Agarol provides a rational and dependable means of combating and overcoming constipation.

It mixes with the feces, renders them soft and plastic, and by supplying the necessary lubrication of both the intestinal canal and the bowel contents, makes their passage easy, and thus assures free and regular emptying of the lower bowel without straining or discomfort.

Of the countless laxatives or evacuants available today, there is none that will be found so satisfactory from every standpoint as Agarol. Acting solely in a physiologic way, it produces free and easy movements which can be relied on not only to prevent the development of hernia, hemorrhoids and other physical defects, but what is of especial importance it substantially aids in the elimination of the toxic products which have been shown to play so conspicuous a part in the causation of many chronic ailments.

THE CASH VALUE OF A COLLEGE EDUCATION

The cash value of a college education to its possessor is $72,000, according to a report based on a long study of the earning capacity of college graduates. The cash value of a high school education is placed by the report at $33,000.

Original Articles

MORBID ATTITUDES AND BELIEFS*

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The program of the present meeting is an interesting document covering a wide field of intensive medical study. To the reader, passing abruptly from joints to hearts, from inflammation to metabolism, it comes as a shock to find a paper on "Morbid Attitudes and Beliefs" sandwiched in between one on anomalous peritoneal bands and another on transplantation of the ovary. He may wonder whether the paper has been inadvertently misplaced, or whether it is perhaps an intentional transplant.

Transplants have the best chance of thriving where there is an actual organic need of the special tissue and this paper, if viable, will perhaps indicate that the contribution of psychiatry is an organic need of modern medicine. The presence of the paper on the program is a healthy sign, even though the presentation of the topic may be far from adequate.

Peritoneal bands and transplanted ovaries are tangible and visible; attitudes and beliefs seem to many elusive and nebulous. Mental attitudes and beliefs, however, are just as solid facts as structural anomalies; we have a more immediate knowledge of their existence than of our anatomical peculiarities; the extent to which morbid attitudes and beliefs cripple and distort the individual life is considerable. Some might consider that the topic belongs more to the philosopher or the moralist than to the physician; but attitudes and beliefs are to be looked on as one aspect of the adaptation of the individual to the environment. So long as medicine retains an interest in the individual as a whole, and in his adaptation to the environment, it will study the laws underlying the formation of morbid attitudes and beliefs, it will be interested in their treatment and prevention.

The attitudes and beliefs of an individual are the individual himself as he reacts to the more complex aspects of the environment; they can only be understood when we study the personality in its complexity and the situation which it has to deal with.

In internal medicine we consider the adaptation of the individual to the environment in so far as it involves physical, biochemical, bacteriological factors, an adaptation in which the chemical and nervous integration of the various systems plays an important rôle. There are, however, other demands made upon the human organism than the ability to assimilate nutritive material, to ward off micro-organisms, to dominate the physical environment in varied climes and under the most diverse circumstances. Man has to adapt himself to the conditions of social life; he has to establish some sort of harmony between the conflicting tendencies of his own nature. Primitive appetites conflict with cultural demands; day-dreaming and phantasy conflict with objective observation and logical thought; development of the personality is subtly modified by the influence of parents, siblings, spouse, children; association with others in school and work may involve difficulties of various types; each man with his own special abilities and disabilities has his own destiny, which may include bereavement, loss, disappointment, unsatisfied desires. In face of these demands many resort to evasive and inferior modes of adaptation, and under the influence of emotional needs distorted and phantastic beliefs may arise.

The origin of a distorted attitude may frequently be traced to influences or experiences in childhood; this is especially true in regard to the attitude towards sex and all its ramifications, and the literature of the last twenty years has furnished an ample case material dealing with this topic. In this case material we see how the early promptings of the sex instinct and the experiences of the child are important factors in the moulding of the personality; early success or failure in relation to the assimilation of this factor may have a profound influence on later adaptation; undesirable experiences may result in an acquired immunity or an unfortunate sensitization. Early influences frequently tend to associate the topic of sex with a feeling of impurity, contamination, guilt, inferiority, and there accumulates a reservoir of distressing emotion, which hampers the free development of the personality. The chronic discomfort arising from this source may be neutralized by

*Read before the Inter-State Post-Graduate Assembly of America, Milwaukee, Wisconsin, October 31, 1924.

the individual in various ways. Thus the disturbing feeling of impurity may be balanced by an exaggerated attention to physical cleanliness; as a patient said, "after a bath I appear better in my own eyes, I feel fresh, it is something symbolic." Or the individual, to get away from what is of the senses and animal, may strain after undue intellectual activity and devote much time to rather unproductive speculation. Religiosity and artistic dilettantism may have their source in the same blind effort to extract the sting from nature's promptings. The young man who derived satisfaction from the symbolic value of the bath was devoting himself to a career in philosophy. Another man, of homosexual tendency, was also a student of philosophy, an idealist; his dissertation had been on a phase of idealism, "I am idealistic, submit everything to the highest standards." When his sex nature was stirred by a young companion, he gave a high mystical value to this emotional turmoil of familiar biological origin. "I felt that Spirit could conquer anything—I dwelt in pure contemplation, in contemplation of pure goodness—in rapture—in contemplation of the good he could do." Prudishness is one of the most familiar attitudes of defense and self-deception in face of the dangers that assail from within. The feeling of inferiority which results from the unequal struggle of the immature individual with the powerful racial instincts may leave a deep imprint on his adult personality; undue sensitiveness and seclusiveness, unhealthy day-dreaming, self-deception may neutralize the efficiency of an otherwise rich endowment and render the individual peculiarly vulnerable to some of the inevitable shocks of life. On this soil the psychoneuroses flourish and every specialist, medical and surgical, sees many invalids whose handicap owes something to these factors. In many cases later difficulty would have been prevented if the child had been helped to a healthy understanding of the simple problems of human nature, and had not been left to muddle along blindly in relation to a major issue of life.

Of fundamental importance in determining the later attitude of the individual towards fellow workers and the social group, towards those in authority in various fields, towards the problem of mating is the relationship between child and parents. The attitude of the spoiled child is familiar; accustomed to obtain satisfaction in the family circle by tantrums and other forms of self-assertion, he is ill prepared to deal later with a world, which does not accept his claims. A robust constitution may, after a trying period, submit to the discipline which has been unfortunately postponed; a less fortunate endowment, chilled by the encounter with an apparently harsh and unsympathetic world, may cling to a feeling of its intrinsic superiority, and see in the behavior of others evidence of crudeness, lack of sympathy, antagonism or jealousy.

There are other ways of spoiling a child than by oversolicitude and lack of discipline; he may be spoiled by too much repression. The feeling of inferiority originally developed by a dominant and intolerant parent, may become a permanent attitude of the adult personality, and seriously influence important decisions.

The influence of the parent is however much more subtle than what is expressed in home discipline. The whole scheme of emotional values adopted by the parents and expressed in their daily behaviour affects the growing child and moulds his outlook on life; the child tends to see with the eyes of the parent; his affections are deeply involved in their personality. The individual frequently does not realize that he has carried on into adult life an attitude of childhood, that he is still haunted by memories of the particular emotional dependence of that period, that he still reaches out for something which will duplicate the old relationship. It is especially in relation to mating that the influence of this attitude may be traced. Some never marry because life with the parent or with the memory of the parent satisfies their needs; others tend to marry someone who in personality or in some more superficial way recalls the parent, even although the match may obviously be most undesirable. Thus the young daughter of an alcoholic may marry an elderly alcoholic. In other cases even a suitable match may be a sad failure owing to the persistence of the childhood attitude, the obscure basis of much incompatibility, of depression, disappointment, resentment, physical invalidism. The individual himself may have little understanding of the unrest which periodically assails him, and which may express itself in odd moods or in some disorder of conduct. Thus in a married man with waves of depression and episodic al-

coholism, the instability in his emotional life and his lack of complete satisfaction in his marriage seemed to be largely due to his unusually intimate relations with his mother, whom in the late teens he had nursed and from whom at twenty his aunt undertook to wean him. The same deep affection for a dead father seemed to be a disturbing factor in the case of a young woman of twenty-seven; under the spell of his memory the ordinary affection of others seemed to her unsatisfactory, the suggestion of a proposal would terminate a friendship. Hampered by her own inner difficulties, she preferred to see the fault elsewhere and felt that the world was abusing her.

The attitude towards the parent carried over from childhood into adult life may be one not of affectionate dependence but of antagonism and this antagonism may express itself in many fields. One may find the individual, with a history of early difficulty with the parent, disinclined as an adult to accept dogma, heterodox in religion, radical in politics, restive under any display of authority. He may pride himself on his exaggerated individualism, not realizing that it is the residual of a childhood attitude, which may long since have ceased to be appropriate.

While the parent as a restrictive force may call out in the child certain important reactions such as the above, the parent is not immune from the dangers of the situation. Not content to live his own life, the parent is liable to encroach on the next generation, wishing unconsciously to relive his life in the life of the child. He thus may avoid his own early faults, have pleasures denied in his own youth, develop vicariously talents which he has always felt were never given a fair chance. The parent without academic training is too apt to insist that his son must have a college education; the self-made man may wish his son to have without effort those things he himself struggled for; the mother, sensitive as to past experiences, may too anxiously guide her daughter past difficulties, which are given undue importance. This attitude towards the life of the child plays an important rôle in the adaptation of many parents. They do not always realize that they are living the life of another person, and that their own individual life is being seriously narrowed; when the child leaves the home for his or her own independent career, the parent may pass through a period of morbid depression.

A woman of meagre education who had married a college graduate was living an apparently stable life, compensating for early indiscretions by religious devotion, and for her own lack of education by the college education of her daughter. To a large extent she was reliving her own life in the life of her daughter. When the daughter frankly accepted Darwinian theories, and made the mother realize that she was an independent being with her own life to lead, the mother had a severe reaction; in her acute need she reached out for comforting religious beliefs, felt she was specially inspired by God, and under this belief carried out peculiar symbolic activity.

It would be easy to give further examples of the disturbing effect on the mother's balance of a daughter's emancipation, either through marriage or some declaration of independence similar to the above. It is true that in many cases even marriage may not modify the attitude of the parent, who continues to demand from the married child the same emotional relationship which has previously existed. Thus the attitude of the parent based on her personal needs may go far to spoil the new situation and in the resultant triangular situation any one of the three members may show the strain by symptoms of the most varied nature; these symptoms are apt to be treated superficially, with no realization of the fact that their roots lie in complicated mental attitudes.

The examples of morbid attitudes so far given have touched the problems of sex and of family adaptation. The wider problems of social adaptation, if not solved satisfactorily, may also give rise to morbid attitudes, thus handicapping personal development, and even laying the basis for later nervous and mental disorder. In our relations with our fellows a feeling of inferiority may develop, just as it may in relation to the control of the appetites. The feeling of inferiority may express itself directly in a timid, self-distrustful attitude, or it may give rise to a surface attitude of quite the reverse type; thus many a rather assertive, aggressive individual who is by this behaviour arousing antagonism, is really attempting to compensate for a feeling of inferiority. The reaction may lead to serious anti-social conduct; a very efficient burglar was

found on arrest to be a school-boy whose daring escapades had no motive of ordinary gain behind them, but were a compensation for a feeling of inferiority due to a physical handicap which made him the butt of his schoolmates. It is always well to keep this possibility in mind, when dealing with perplexing wayward behaviour. The feeling of inferiority may arise in relation to any of those qualities which are of value in social life. The love of self, the tendency to self-assertion, the desire of the various amenities of life make each one of us, in greater or less degree, sensitive to any defect in our equipment and to our position in relation to our fellows. From an early age and in many ways each one may feel himself handicapped in the race with his fellows. The child may have some physical handicap, a deformity, a limp, a speech defect, some variation from the normal in his appearance; he may have less money to spend than his fellows; he may belong to a racial or religious group that is treated with little consideration; he may be rather dull mentally, or clumsy physically, or unduly timid and sensitive to pain.

The feeling of inferiority need not be crippling; in many a personality it furnishes a stimulus to extra effort and is a spur to the vigorous pursuit of power, of wealth, of holiness, of abstract truth. It is not always the best endowed or those most favored by circumstances who achieve the greatest success.

Instead of finding some satisfying external activity to compensate for our special handicaps, we may seek comfort in a subjective way, which leaves the actual situation unchanged but makes it more tolerable to us. If devoid of social graces, we may talk slightingly of "the dancing man"; if we have brains, but no brawn, we decry athletics; if dull intellectually we refer with mild amusement to the "high-brow" and the pundit; if routine clinicians, unable to carry out keenly an experimental investigation, we may make light of research; if temperamentally unable to deal with the raw material of suffering humanity in the wards, we seclude ourselves in the laboratory and talk with condescension of the "mere clinician"; if we have little of the milk of human kindness, we belittle the kindly practical philanthropist, call him an "uplifter"; if we are sentimental enthusiasts living on facile emotions, we may do scant justice to those careful workers, who realize that social progress is a matter of slow evolution. The man who has no merriment in his soul refers to the innocent hilarity of others as the "crackling of thorns under a pot". This morbid attitude of self-satisfaction and depreciation of others may be partly of individual and partly of social origin; considerations of caste are still potent forces, objectivity is not always fostered by the atmosphere of the family, the social group, the school, the college. Patriotism and chauvinism are apt to be confused; to see the defects of one's own group and the merits of one's rivals is by some considered to be a moral blemish. It is not always realized that there is a sounder basis for truthfulness and honesty than the fact that one is a Smythe or a De Vere, and that to base the claims of virtue on an appeal to caste feeling has drawbacks. It must be recognized that a great variety of social groups derive comfort from the assumed inferiority of those whose tastes and customs and ethics differ from their own; the group mind is not immune from morbid attitudes and it is difficult for the individual to emancipate himself from the group bias.

While thought may thus pander to our prejudices at the expense of our fellows, on the other hand it may bring comfort and may foster cheerful acceptance of hardships and loyal social cooperation. In virtue of the magical quality of thought, directed by subjective cravings rather than by objective observation and logical elaboration, man may see the otherwise intolerable reality as merely a trifling detail in the foreground of a picture of the universe, painted with the colours of his desires. Thus envisaged and transformed, a world of barren force and hateful inequality fades away, and in its place appears a spiritual world, in which the rôle of the individual is of transcendent importance. A religious or philosophical solution of personal difficulties may transform an embittered or crippled individual into a useful member of the social group. For such a result the religious solution must not be too individual, it must conform to the general lines of an already existing creed or, if novel, it must make a sufficient appeal to the needs of others to be acceptable to more than merely a few extremists.

In many individuals thought, directed by underlying wishes, fails to attain this socially acceptable form and through this failure the in-

dividual is left isolated, with a barren system of beliefs which offers him no bridge over his personal difficulties to a working social adjustment. Because these beliefs are so individual and leave him isolated, they are considered by his fellows to be morbid, although they may intrinsically be no more illogical nor irrational than many widely accepted beliefs. They are simply the indication of a deep-seated difficulty of adaptation, and like so many other so-called symptoms of disease they are nature's attempt at cure.

The importance of the analysis of morbid beliefs varies very much in different cases. In some cases they may be of rather incidental interest, throwing light it is true on underlying trends of the personality, but not having much to do with the real onset of the disorder. Thus a man of 47, who had shown periods of over-activity and under-activity, during convalescence from pneumonia claimed that he had millions, boasted of a wonderful voice, said that he would make an excellent President of the United States. Such beliefs are sufficiently close to the normal over-estimation of self not to present any great difficulty of interpretation; in this case they were able to come to naive expression thanks to the influence of the physical ailment on the highest functions. Such disclosure of the furniture of our mind is most familiar perhaps in acute alcoholism—*in vino veritas*—but it may be elicited by any other factor which disturbs the higher integrations, e. g. an anesthetic, an infectious disorder, emotional turmoil. Much of interest in human nature is revealed by the ideas, which flit over the stage in the delirium incidental to many physical disorders; thus the claim to be Christ is met with very frequently as a fleeting idea in many disorders, and shows that a messianic ambition is more widely diffused than would be indicated by the few patients, in the fabric of whose beliefs a fixed delusion of being Christ is a central factor. Ideas of spiritualistic nature are toyed with by many people in whose mental life they are more or less of a luxury, an idle distraction, or a pleasant stimulant; the same ideas may be called on seriously to satisfy the deep-seated needs of others, bereft or thwarted, who have not had the good fortune to find a more wholesome solution of their problems. Unfortunately those, who dabble freely in such beliefs for the sake of the pleasant stimulation they receive therefrom, do not realize that they are by their attitude encouraging the use of these stimulants in others of less robust mental constitution, whose balance may thereby be seriously upset.

The following case is cited to show how thought may prove the servant of desire, and may elaborate products which are individual and eccentric and which may interfere with healthy social adaptation. The patient, a man of 52, had received a meagre education on account of deafness in childhood; poorly educated, deaf, ungainly, he reacted to these limitations in a vigorous way. He used big words, engaged in pretentious reading, studied medicine and phrenology; he wrote a book of fiction (unpublished) "How the Matrimonial Agency Failed", a poem "Basic Aims", and in a third book he dealt with such major problems as War, Morality, Sex Distinctions. He attempted somewhat late in life to compensate for his social uncouthness by taking dancing lessons, he had to hire his partners; he found that nobody "developed his steps logically", nobody could keep up with him, he was the fastest dancer in the world. An excellent craftsman he patented some toys, the last of which was an ingenious "fire-lighter"; his self-esteem was much heightened by the consideration that this "fire-lighter" might be used for arson on a large scale. His advertisement said "it may be used to carry on an effective warfare against society without danger to one's self. It is the only morally effective instrument which a man can have and is very important in the struggle against greed and the exploitation of the masses." Such an attitude while comforting to the patient was evidently very unfortunate from the point of view of social adaptation, and could hardly be considered a solution of his personal problem compatible with an unsupervised social existence.

Another patient showed a similar development of rather pretentious claims, but without the same ominous trend to his views. He also was deaf, had been invalided for tuberculosis; during a brief fast he had felt particularly buoyant; he read some physiology, and on this flimsy basis he published a pamphlet "Health for All, Explaining the Principles of Nutrics and Vitamin (This Book guarantees cure in Any Non-epidemic Disease And Assures to You Long Life in Health by Easy Method)." How often does one read in current medical literature commu-

nications, of which the basis is only slightly more substantial than that of the above pamphlet, and the explanation of which is to be sought in the psychology of the author! The patient had felt dissatisfied with himself in relation to the sexual problem; this manifested itself in undue suspicion of the morality of his sister, and in the desire to guide and improve others. This had inspired two pamphlets "The Life Guiding Facts About Love, Courtship and Marriage", "The Married and Those Who Marry Take Heed."

In the cases above discussed the influence of underlying emotional factors upon overt attitudes and conscious beliefs has been shown, but the structure of the patient's thought is still logical, the physician has little difficulty in thinking himself into the patient's point of view.

One of the most fascinating studies is that of the attitudes and beliefs of those who are not only disturbed by deep-seated trends, but whose ideas are no longer expressed at the level of adult logical thought. In such cases there crop up attitudes and beliefs, not cast in logical mould nor easily comprehended by normal minds; they are apt to be considered as the random fragments of a broken vase, scarcely worth intensive study. The close scrutiny of these beliefs suggests that we may be dealing with no random fragments but with modes of thought, which at one period were primitive man's reaction to experience, and which have long since been superseded by our more efficient modern mental processes. The ideas of our patients have close kinship with the modes of thought of childhood and of primitive man, and their emergence during a mental disorder shows how there slumber beneath the surface of modern consciousness all sorts of primitive mental creatures, which once roamed freely across the surface. An unmarried woman, who had for several years fought a losing battle against the rising tide of her discontent, at last took refuge in the hospital. One may refer to a few of her utterances: "If I marry just the right man, everything will be all right; if not, the end of the world will be the ice age, all cold"; here we see no separation of man from inanimate nature, but one process which sweeps through all, and the chill of her own future may just as well be expressed in the wider setting of the ice age, as in reference to the narrow personal part of the total experience. The same lack of any division between psychical and physical forces is again seen in the following: "What can we do to bring back the sun? It is gone. I must keep the sun going. If I am higher up on the fifth floor of a building I can call back the sun. When I was in the bath my spirit went out to many worlds. The sun is life." "The sky changes with my mood; when my mood is blue the day is dark." "When I went to the sun parlor the sky became dark as though the atmosphere were in opposition to me." "Harmony must be established between the stars.—I thought matter was alive. I thought planets were jealous like human beings." Nature, fellow-patients, animals, herself, all seem penetrated by occult forces; "I must go to the toilet, for if I don't the girl over there will die"; another patient who disrobed entirely was referred to thus, "I felt as if the girl opposite was the spirit of the earth, and as if she were trying to ally herself with me by strange ways." "We are related to nature in a much more close way than we think." At a later period as she looked back on this mode of experience from the vantage ground of improved health she said, "I thought everything was animated; the animals have a spirit, they understood us. I felt a great kinship between the animated world and myself. I looked at the horses in the bridle path and they seemed to prance. Perhaps it was only by accident, but I like to think it was true." In the upheaval of the patient's nature the creative force, which had been denied expression in real life, now expressed itself through the medium of phantasies of varied nature. Thus certain shadows seemed to confirm the vague annunciations from the depths of her nature; "I think that they meant to say that in me the perfect man was not completed yet; in me the Father and perhaps the Son, as I was willing to sacrifice myself, but that knowledge or perhaps love—I don't mean passion but more general love; charity was a child in me." The symbolic expression of her creative yearnings is again seen in the following account of her breakfast; "there was an egg wrapped in a napkin, a dark red rose partly faded, some cereal, I can't remember, some coffee. I thought I should not eat the egg, as if it were a symbol, as if it contained the germ of life and the rose the symbol of passion. The cereals were as bread, the symbol of food. I took the rose, the sun was shining very brightly,

and it was a strange thing that when I took it in my hand it stood as a fresh rose. *It was as if I were all penetrated by the power of giving life to things.*" Again she said "in me I thought there was the embryo of the complete man."

The above examples may serve to show that morbid attitudes and morbid beliefs, whether expressed in logical or more primitive form, are merely an indication of the difficulty of the individual, with his own special endowment and past experiences, in adapting himself to the situation which confronts him. In face of these symptoms, which he has been accustomed to consider as nebulous and bordering on the metaphysical, the physician is tempted to resort to physiological hypotheses, often of very doubtful validity. The present communication would encourage him to realize that he can help his patients, if he remain on a sound biological basis, and be willing to take an interest in actual human nature, its past evolution, its present conflicts. The general practitioner, who is sufficiently interested to give to his patient the time necessary for the study of the real life difficulties of the latter, may be surprised to find how greatly the sphere of his usefulness to the community has been extended.

THE STORY OF PNEUMONIA WITH AN APPARENTLY SUCCESSFUL TREATMENT. COLD THE CHIEF EXCITING CAUSE

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In a study of lobar pneumonia it is interesting to bridge that great expanse of time stretching across a period of many ages to the early days of the world in an effort to ascertain the extent of primeval men's knowledge concerning this most fatal of all acute diseases, and measure their achievements when combating its incursions on human life. Did primitive men keep records of their observations in their study of diseases, and what degree of success did they attain with their often necessarily crude armamentarium? Can the speculative mind discover testimony demonstrating that the first men recognized the value of preventive medicine as associated with this and allied diseases? Let us together view this prospect of man's first struggles against disease and learn if we can how much farther we have advanced in our knowledge of pneumonia and the treatment of it. Let us see what is old and what is new.

Reviewing ancient literature embracing "physick" together with the oldest classics is not only peculiarly fascinating and productive of valuable enlightenment, but ancient accounts of disease impress us with a keen realization of the extraordinary degree of knowledge in medicine acquired by Hippocrates, his pupils, and his contemporaries, many of whom dedicated their lives to the healing art. In this task we are confronted with a vast array of testimony showing that very much of our present day knowledge concerning disease occupied the minds of men so long ago that any attempt to fix the date of its beginning becomes mere conjecture.

Commentators declare that the various treatises attributed to the "father of medicine" represent the oldest documents extant pertaining to the practice of medicine and surgery. We must not assume, however, that men were not credibly informed regarding the nature of many diseases, pneumonia included, and that records of clinical findings were not tabulated long before Hippocrates disseminated the fruits of his profound erudition toward the alleviating and curing of sick men. "With all his wisdom and practice," as one writer has it, "he could not have done what he did, if it had not been for a long succession of physicians, even from Aesculapius's time to his, which was eighteen generations."[1] The works of Hippocrates constitute a "performance surpassing the genius of man" as Suidas[2] succinctly expresses it, and leave an imperishable monument to his memory which will endure as long as human creatures remain.

There is no tinge of sophistry in the premise that learning is nothing else but reminiscence. Indeed, it is an axiomatic truth, vividly flashing its message across our minds the farther back we search in medical or non-medical literature. When we consider that Shakespeare together with innumerable literati basking in his genial and effulgent rays were plagiarists of the most pronounced type, and that plagiarism is everywhere evident in the writings of Tacitus, Virgil, Cicero, Herodotus—all ancient writers without exception, one should not assert unreservedly that all the documents of Hippocrates are genuine and authentic. Nor should we hastily conclude that he is entitled to priority in all matters re-

lating to the subject of human ailments although his writings were authoritative and voluminous.

Picking our course back to the dawning year of Christianity in search of medical lore pertaining to pneumonia, we find Celsus[3] and Pliny the Elder[4] deeply engrossed in presenting to the world their wonderfully interesting literary compositions dealing with wounds and diseases. But the counterpart of a great portion of their writings is met in works of Aristotle[5] and Hippocrates who left a blazed and beaten path for their guidance several centuries earlier. And about four centuries before the birth of Hippocrates we find Hesiod[6] and others giving expression to a knowledge of disease much of which afforded basic material for the former's aphorisms and other theses. Continuing our journey further into the dim past no mental acumen is required to clearly perceive that Hesiod borrowed much of his learning relating to disease from Homer.

Nor can this be called the beginning of recorded knowledge embodying diseases. For if we follow the historical paths of Moses we shall find that he also knew a tremendous amount pertaining to disease and kept records of the same as is evidenced in the Talmud.[7] Besides studying the effects of foods and waters and the seasons as they produced a beneficial or a deleterious influence upon health, we learn that Moses and other deep thinkers among the Israelites had gathered together a vast amount of knowledge dealing with the nature of leprosy, dysentery, the menses, insanity, dropsies, asthma, poisons, plagues, lung diseases, and many other human ailments. Their familiarity with the employment of drugs as remedies and their potency was very extensive.

Fancy does not necessarily journey far to see that the erudite Moses no doubt acquired much of his learning concerning disease from the teachings of Abraham who had a "dangerous distemper" at one time, and who establishes clearly by the records he left that physicians were delving into the hidden mysteries of disease at that time, and were esteemed as highly nearly 2000 years before the Christian era as they are today.

From all of which it must be inferred that men kept records, crude as they were, since the inception of human reason, even long ages prior to the period when Moses placed his tablets bearing a record of the commandments in the Ark of the Covenant. Again, we must necessarily believe that pneumonia together with all diseases we know anything about today menaced the lives of the first inhabitants of the earth. It is illogical to entertain a contrary opinion. Very little can be properly termed new, and this applies to diseases as to other things. If there is very little that is new in literature—and there is not, as plagiarism clearly establishes—then it is reasonable to assume that very much of our present day information relating to anatomy, medicines, and diseases, was well known to the ancients. Wonderful indeed has been the onward march of medicine with its tireless workers, and extraordinary advancement has been made in certain lines of endeavor, but much of our learning is merely the old thing with a different aspect or more highly polished. In the Antiquities of the Jews Josephus informs us that before the flood "which occurred 2656 years from Adam, the first man" two pillars were constructed, the one of brick, the other of stone, that in case the pillar of brick should be destroyed by the deluge, the pillar of stone might remain, and exhibit the records inscribed upon them to those who might come after them. And of this historical occurrence Josephus says, "Now this remains in the land of Siriad to this day."

But what did those people living during the epoch distinguished by Hippocrates know about pneumonia? How did they treat this so-called "Captain of the Men of Death," and was this Captain as indifferent and nonchalant during his forays on human life in the days of the long ago as he is today? What was ancient men's conception of anatomy and the functions of the lungs and the heart; what did they know about blood; and did they recognize the predisposition to disease caused by exposure, a debilitated body, and excesses, especially as they are applicable to pneumonia? Was disease rife as it is today, and what methods did they employ to combat it?

Aristotle[8] informs us that "the lungs are anomalous, neither being divided into many lobes, as in other animals." The heart, he says, "has three cavities . . . there is a sinew in the principal cavity . . . that passages lead from the lungs to the heart . . . which receive the breath and transmit it through the heart." Again he says "Those persons are deceived who say that the lungs are empty, drawing their conclusion from dissected animals, from which all the blood has escaped. Of all the viscera the heart alone contains blood, and in the

lungs the blood is not in the lungs themselves, but in the veins by which they are perforated."

Plato's[9] knowledge pertaining to the heart and lungs was somewhat different from Aristotle's, and the uniqueness of his description is apparent. He says, "that the great Architect of the universe has placed the lungs close to the heart, by nature soft and destitute of blood, and having cavities penetrable like sponge, that so the heart, when it quivers, from fear of adversity or disaster, may vibrate against a soft and yielding substance."

You of course know that Hippocrates[10] has left the greatest amount of information and the best arranged, dealing with human ailments up to his time. He with his pupils, one of whom was Polybius, knew very much concerning anatomy and disease, and the interpretation of their aphorisms are eagerly sought and pondered over by many of the most profound thinkers in our ranks today.

Pneumonia in the time of Hippocrates was called peripneumonia. "If the winter is cold" he says, "the men are troubled with moisture and phlegm in their heads, and with frequent disorders of the belly from the phlegm's distilling downwards. The men are subject to . . . chilly cold fevers, long winter fevers . . . But pleurisies, peripneumonias, burning fevers, and such diseases, as are called acute are very rare in cities such as use standing and marshy waters, and are badly situated as to the sun and the winds. . . . If the summer be showery and southerly, and the autumn the same, the winter must needs be sickly. Phlegmatic persons, and those above 40, will go near to have burning fevers; and bilious persons, pleurisies and peripneumonias." In speaking of the effects of winds he says: "A northerly wind brings coughs, inflammations of the throat, chilliness, and pains of the side and breast." With respect to seasons he again tells us: "In the winter are pleurisies, peripneumonias, lethargies, rheums from the head, horseness, coughs, pains of the breast, side, loins, and head." In records of diseases he encountered during the years he practiced in ancient Thrace and Macedonia we read "coughs began the 14th or 20th day about the winter solstice (he does not state whether it was before or after), from the frequent changing of the southerly and northerly winds, and snowy weather; some of which lasted but a little time, others longer; and were succeeded by peripneumonias in abundance. . . . The peripneumonias were very short; but inflammation of the throat came at last after coughing, or else held 'em a little while in the room of the cough." In his aphorism XXIV, Sec. V, we read "Cold things, as ice and snow, are enemies to the breast, they cause coughs, fluxes of blood, and distillations."

Both Homer and Hesiod[11] have preserved for us the fable of Pandora's Box—Pandora, the mythical beauty who unleashed her store of diseases and punished the human race because Prometheus aspired to be Jupiter's superior. In Hesiod's Works and Days we read "Now aforetime indeed the races of men were wont to live on the earth apart and free from ills, and without harsh labor, and painful diseases, which have brought death upon mortals. (For in wretchedness men presently grow old). But the woman having with her hands removed the great lid from the vessel, dispersed them: then contrived she baneful cares for men. And Hope alone there in unbroken abode kept remaining within, beneath the verge of the vessel, nor did it flit forth abroad: for before that, she had placed on the lid of the vessel, by the counsels of aegis-bearing, cloud-compellor Jove. But myriad other ills have roamed forth among men. For full indeed is earth of woes, and full the sea; and in the day as well as at night diseases unbidden haunt mankind, silently bearing ills to men, for Counsellor Jove hath taken from them their voice. Thus not in any way is it possible to escape the will of Jove."

Diseases have gone hand in hand with man since the first child gave voice to that initial wail heralding his advent into worldly affairs. And in all probability pneumonia scurried forth with the first litter that emerged from Pandora's box—pneumonia! the despair of physicians, but the friend of the old who pray that they may be spared a lingering illness or a death attended by great suffering.

Lobar pneumonia is defined as a self-limited disease, characterized by an inflammation of the lungs together with consolidation, a toxemia of varying intensity, and a fever terminating by crisis. The specific organism usually present in the disease is the diplococcus pneumoniae.

A typical case of pneumonia begins with a chill. Fever and headache are present. The respirations increase in frequency and within

a short time a dry and painful cough begins which is accompanied by a severe pain in the side and dyspnea. In a day or two we see a picture which can hardly be mistaken for any other disease. The patient's eyes are bright and he appears ill at ease: his expression denotes anxiety to fathom the doctor's mind in order that he may determine what the doctor thinks about his condition. Herpetic eruptions are often present on his lips, he lies quietly in bed, and the alae nasi may dilate as much as they would had he just finished a race. His breathing is hurried and the chest pain often causes an audible grunt during expiration. The expectoration soon becomes tinged with blood, and more and more tenacious. The pulse is full and bounding and the temperature may reach 104 or 105 degrees. The stethescope reveals fine râles and blowing breathing, while percussion elicits the high pitched and perhaps the dull note of consolidation and hepatization, respectively. After about a week the symptoms abate and the crisis occurs with a fall in the temperature.

The clinical varieties of pneumonia are many as you of course know. And of the various types we often find cases greatly at variance with the so-called typical case just described. Occasionally no chill marks the beginning of the disease, and another case may exhibit a low temperature throughout its course. Cough may be slight or entirely absent in old persons, and occasionally it is absent in drunkards and in young children.

For almost a hundred years three stages in the inflamed lung have been described by pathologists—that of engorgement, red hepatization, and gray hepatization which is well understood by all physicians. Very little that can be termed new and of accredited value is met in present day literature that was not taught 25 years ago about pneumonia. Findings on autopsy, the physical signs obtained by percussion, auscultation, and inspection, the complications and the clinical varieties—all may be described in our text-books of today with a somewhat new nomenclature, but there is no proof significant pointing to a difference in the disease itself since it was first distinguished from allied diseases and given a definite name. Pneumonia is methodical and staid in its workings, showing no evidence of partiality for innovation.

Among the etiological factors cold and debilitated conditions as a result of neglect or excesses are, in my opinion, the greatest predisposing causes of pneumonia. I place cold at the head of all causative factors. If you will indulge me I beg to submit my reasons for this statement and to say that in my opinion almost all clinicians have neglected to lay sufficient stress upon the importance of cold and exposure as the underlying cause of almost all pneumonias. When this is understood by physicians as I think it should be understood, I believe that pneumonia will cease to be a chimera among diseases — a bête noire to physicians.

We all know that the morbidity and the mortality of this disease during the summer months in our latitude is almost nil, or it bears no comparison with the curve during cold and changeable weather of fall, winter, and spring months. We recognize the fact, I believe, that although here and there are found coughs not aggravated by night air, in the major portion of human beings coughs become worse and intractable during the night when the air loses its heat from solar radiance. Again, it is a well known fact that the first call to attend a croupy child usually comes during the night when the air cools off.

Mortality statistics embracing pneumonia in southern states are fallacious. We are asked to believe that the incidence and mortality curves in pneumonia are as high in "hot countries" as they are in cold climates, and statistical figures from New Orleans, Galveston, and southern California are presented as proofs of such statements. But they are all misleading and deceptive. These cities are not in hot countries. A grower of citrus fruits in California would be looked at askance by experienced growers were he to attempt to raise oranges, lemons, and grape fruit without the protection of orchard heaters. Those who have lived in California know that almost all winters bring much weather that is cold and disagreeable. And it should not be forgotten that a large percentage of southern California's population during fall and winter consists of tourists who have reached the divide and are now following the trail downward toward life's sunset. Many have diabetes, rheumatism, and other diseases of a chronic nature which render them fit subjects for inroads of the pneumococcus. The strength of their youth is a phantom of the past. Young adults in whom disease has not yet gained

a firm foothold always form the minority groups among tourists the world around.

The orange-growing district of southern California near the cities of Pasadena, Redlands, Pomona, and Riverside, is in the same latitude as Atlanta, Georgia. And one cannot find much more disagreeable weather during winter than is experienced by a large share of the inhabitants of Georgia, Alabama, Louisiana, and Mississippi. In our latitude we prepare for cold weather and even though prepared with properly arranged heating plants and heavy clothing and well built houses, there are many occasions during fall and spring especially when we become careless. Fires are allowed to die down or our homes become overheated; winter clothing is donned too soon or removed too early in spring. But in the states just cited many winters are mild and the inhabitants live under a false impression of security. Many homes of even the well-to-do are not heated properly. Nor are they built to withstand cold, seldom having sheeting under the weatherboarding or double floors as obtains in northern homes.

Many living in the gulf states mentioned above are imbued with a false sense of pride as they endeavor to follow tradition and exhibit their "southern" climate to the visitor from the north or the callow settler. Few will admit that their winters are cold and disagreeable. The homes of negroes are almost all shacks resting on posts and many are without a vestige of plaster. Frequently may one see so-called well constructed frame houses in old southern districts shaken by the playing of a piano to almost as great a degree as our brick buildings in the north respond to the vibrations of passing trains.

The same conditions respecting cold and protection from it are found in and around New Orleans and Galveston. The only orange capable of withstanding winter's cold in the latitude of New Orleans and Pensacola is the Satsuma which is regarded as the most hardy of all oranges, and yet it is not always safe as was exemplified during the freezing weather which swept the southern states in 1917. The extreme of heat in the "southern" climate which includes the gulf states and northern Florida is 103 degrees F, and the extreme of cold is 13 degrees F.

Florida is our only state which can claim a position in the semi-tropical and sub-tropical zones, and only the southern third of the peninsula rightfully bears the distinction of a sub-tropical climate. Chilly and disagreeable weather is frequently met during the winter in northern Florida as far south as St. Augustine, sometimes extending to Ormond and Daytona. During the great epidemic of 1918 and the spring of 1919 the number of deaths from pneumonia and influenza in the southern half of Florida was extremely small, although very many northern people hastened back to their Florida homes from northern cities where the inhabitants were succumbing to the disease in an appalling manner.

I lived in the central part of the east coast of Florida during the summers and winters for six years. Engaged in citrus culture I was obliged to keep daily records of temperatures. These records show a remarkable equability. The following figures are illuminating. For example, during one winter there were eighty days of sunshine without a break in that part of Florida. The extreme of cold during the months of December, January and February for six years was 58 degrees, but the winters of 1917 and 1918 which brought the first disastrous frosts in twenty-four years are included in these figures. About 92 per cent. of the temperatures were read at 6 A. M., of each day, so 58 degrees is not entirely correct. Readings at noon would give a much higher average. Many days of the winter months give a midday temperature of 65 to 75 degrees and higher, while the morning temperature on those days may be 50 to 55 degrees. The temperature Feb. 2, 1917, was 24 degrees and Jan. 3, 1918, it registered 29 degrees at 6 A. M.

Equable weather in Florida obtains in the summer time as well, and the temperature remains with remarkable constancy between 80 and 90 degrees. On only one day in six years did the summer temperature rise to 95 degrees; on eight days in the same period of time it registered 94 degrees; and during the month of July, 1917, it remained below 90 degrees for 28 days. The cooling breeze from the sea together with very many summer rains (called there tropical rains) are the greatest factors in giving Florida a delightful summer climate. As far as I know sunstroke is unheard of in those parts of the state near the coast; I never heard of a case. Many go about without hats during all the days of summer with impunity, as innumerable northern people know. During some winters disagreeable

weather is met and light frosts destroy tomato plants, and tender vegetables, but this is the exception and not the rule.

The point I wish to emphasize in this digression relating to climate is that cold and pneumonia are steadfast companions, and that there is very little pneumonia in any warm or subtropical country in the world unless the elevation of a particular region is so high that marked changes occur as a result of it. In six years spent in Florida I attended only two cases of pneumonia and these patients were recent arrivals from the north. Very rarely does one hear of lobar pneumonia in the southern half of Florida, and it is my belief that some cases reported as pneumonia are merely attacks of bronchitis. Coughs are uncommon down there and a slight cough is often the cause of much alarm and anxiety to the timid and to the credulous. Several times I was called to attend patients in whom a diagnosis of pneumonia had been made, but there was nothing to justify such a diagnosis.

The cause of this equability of climate in the southern half of the Florida peninsula can be atttributed to several reasons which I think should be considered here because there is no other part of the United States so favorably situated as to climate. First, as to latitude, the semi-tropical or orange zone of Florida is much farther south than the orange belt of California. Palm Beach which is in the subtropical zone is about 500 miles nearer the equator than Los Angeles and Pasadena. It is nearly or quite in the same latitude as Cairo, Egypt, and Calcutta, India. Second, the close proximity to the warm gulf stream, the inner side of which is within four miles of the coast at Palm Beach, about forty miles from the coast at Melbourne, while it is too far out in the sea east of Jacksonville (100 miles) to mitigate the disagreeableness of winter to any appreciable extent. Third, the peninsula juts down between a great gulf and a still greater ocean, the waters of which are too far south at that point to be affected by the cold waters of the northern ocean. Fourth, the nature of the soil, which is to a great extent a sandy loam. The sun's rays striking against a sandy soil produces great heat such as we see in the shimmering heat waves arising from a desert. But in the peninsula portion of Florida conditions are quite the opposite of those seen in a desert. When the sun's rays strike the earth at an angle of 45 degrees, which it does at about 10 A. M., the cooled ocean air rushes in and occupies the vacuum produced by the heated air that has ascended. As a result pleasantly cool air blows toward the land of Florida's peninsula during almost every day of the summer. This same breeze continues during the winter, but the adjacent waters of the sea are too far south and too vast to become noticeably cooled by the northern winter before the sun of spring and summer again appears on the scene.

Let me repeat that pneumonia is of rare occurrence in the south half of Florida or in any warm country. As tuberculosis and rheumatism are in the same category so far as climate is concerned they deserve mention here. Tubercular persons are living in that part of Florida today who left northern states years ago with the stamp of incurability upon them. I am reminded of one family with four tubercular children who moved to that state 28 years ago. All but one of those children have raised large families. None of the four is robust, but they do not cough, and unless their history were known, it would be difficult to believe that they came from a tubercular strain. Rheumatism, too, which usually becomes worse during cold weather is of less or no annoyance to rheumatics who go there to live permanently.

In my opinion cold has more to do in inciting pneumonia than any other one thing. Without cold pneumonia would cause no more apprehension during our winters than it does during our summers. The ancients recognized the potency of cold, and from the day of Hippocrates to the present time one can readily see that cold and coughs and pneumonia constituted a trinity bound together in the closest ties of kinship. Ancient and modern literature abounds with references pertaining to the great fear the ancients bore towards cold and it tells of the fixed opinions they entertained concerning its importance as the chief causative factor in producing coughs and bronchial troubles. A great portion of the writings of Hippocrates as you know is devoted solely to the importance of regarding cold as the precursor of lung diseases.

Just as the features of many old persons in death assume the simple expression of their childhood days, and just as the furious man often

resorts to inborn traits of cruelty and bestiality which was a part of his savage ancestors, similarly it seems to me that many old persons evince an innate fear and dread of the cold. This apprehension and dread of winter's approaching cold with its marrow-chilling blasts fills the hearts of many old men and women with an indescribable feeling of insecurity and helplessness and impending danger that can be likened to the fear and terror grasping a child's heart as night aproaches and darkness surrounds him. The ghost of fear alarms the child, while the specter of disease and trouble and pneumonia is heard by the aged man in every moan of winter's wind.

Let us now consider how to treat pneumonia. For treatment is the most important part of the entire subject. No matter how much or how often we employ the microscope, the electrocardiograph, the sphygmomanometer, or the metabolism apparatus, unless we can find a remedy to check or cure pneumonia we have made but little more progress than Hippocrates and we are still floundering on the rocks.

As with all seemingly incurable diseases innumerable remedies are described that have been proclaimed certain cures of pneumonia. Many are now abandoned as worthless, as you know, many still retain their place in the physician's armamentarium, while here and there we read reports of physicians who have had success with certain remedies in treating pneumonia.

The treatment I have used for twenty-one years follows. Upon the first visit to a patient I leave tablets of calomel and sodium bicarbonate, together with a three or four ounce solution of the tincture of aconite and the tincture of veratrum viride. Eight or ten ¼-grain tablets of the calomel are given an hour apart and they should be crushed. If laxatives have been administered before my arrival I give the calomel, anyway. The tinctures should be made from fluid extracts. Stock preparations of these tinctures almost always result in the formation of a precipitate and I am sure that such a solution is of little worth. On the contrary, I am led to say from a long experience that solutions made from fluid extracts are of great benefit in reducing temperature and aborting many cases of impending pneumonia. If the fever is very high I order half a teaspoonful of the tinctures given every fifteen minutes or half hour during the first three or four hours, after which a teaspoonful should be given at two or three hour intervals during the first day or two. During the third and fourth day teaspoonful doses of the solution are given from three to five hours apart depending upon the patient's pulse and general condition. I pay no attention whatever to much that we read in text-books pertaining to aconite and veratrum, especially to the length of time these drugs may be given with impunity, or to their alleged unfavorable action on the heart. I have never observed any untoward action. There is such a diversity of opinion concerning these drugs in medical books that it is logical to believe there is still much to learn about their action.

The patient is urged to drink half a glass or more of water with each dose of medicine. The tablets should be taken within a period of eight or ten hours, thus soon leaving the patient with only one medicine to take. During the first three or four days he should be aroused regularly night and day for his medicine and nourishment. Several hours after the last tablet has been taken, at least two heaping tablespoonfuls of Epsom salt should be given if the patient is an adult. Unless he be very weak he should sit upright during defecation. In the afebrile type I use the same eliminative drugs, together with the same solution of tinctures. But in such cases the solution is given in teaspoonful doses every two hours during the first twenty-four to thirty-six hours, after which it is given from three to five hours apart depending upon results obtained.

If the patient has been accustomed to drinking milk and one is reasonably certain that assimilation will follow, the milk should be taken some time after the salts acts in a thorough manner. I usually ask him to take plenty of soup and broth, with two or three feedings during the night, instead of milk. Only occasionally do I advise the giving of milk, and not at all if the pneumonia is of the influenzal type. Some of my influenza patients have not borne milk well; it is often vomited. And when I do order milk I ask that no fruit or acid food be given within an hour before or after taking the milk. If he is a coffee drinker an occasional cup of coffee does no harm, but on the contrary he usually feels better after drinking it. I use

every means available to keep his stomach in such a condition that nourishment will not be refused. A large portion of butter should be melted in the soup or broth and it may be made palatable by adding salt and pepper, else the patient may soon tire of it. It is of the greatest importance that his strength be maintained, and we strongly urge him to drink plenty of broth and soup.

In some cases I give no medicine after the third or fourth day unless it be necessary to give a stimulant. In the majority of cases the vigorous elimination at the onset of the disease and the seemingly beneficial effects of the tinctures leave the patient in such a state that he seldom refuses nourishment, and if he does we usually succeed in persuading him to take it anyway.

Even when the crisis appears to be collecting its forces preparatory to carrying off the patient, I give no stimulant unless I am very sure the patient's condition warrants it. However, upon the first indications of a weakening pulse or respiratory failure I give a tablespoonful of good brandy to which is added two drams of sugar and an ounce of water. This quantity of brandy and sugar is given every two hours until improvement is seen. If the pulse does not rally after one or two doses, then two or three or four times as much brandy is given with the same proportion of sugar and two or three ounces of water. Again, if I see that brandy alone is followed by no good results I dissolve a hypodermic tablet of glonoin, strychnine, and digitalin in each dose of the brandy. In some cases I dissolve two tablets in the brandy, thereby giving 1/25 grain of strychnine at one time. If the brandy combined with the tablets brings about no improvement in his condition after the administration of two or three doses at intervals of two to three hours, I continue with the brandy but give one or two tablets hypodermically. Very rarely have I found it necessary to give two tablets at one time, either hypodermically or per mouth. When the patient takes the tablet with the brandy I am careful to see that he gets all of it. As soon as an improvement in the pulse is apparent I reduce the quantity of brandy, lengthen the interval between doses, or give none at all unless an unstable pulse or dyspnea again appears. If the patient be delirious, comatose, or even apparently moribund I arouse him and force him to swallow by calling loudly into his ear or shaking him, while the brandy is poured slowly under his tongue.

I give very little medicine for cough, thereby avoiding the racking of his body occasioned by a troublesome and weakening cough. I urge him to refrain from coughing. A pneumonic cough if indulged usually greatly distresses and almost always markedly exhausts a patient. About three days after the crisis I occasionally order an expectorant to be given two or three times daily when it appears to me necessary. Only rarely do I give morphin for the pain; two long adhesive straps applied to the side for a day or two usually afford sufficient relief after which they are removed.

A tonic mixture of arsenous acid, clear syrup of the hypophosphites and sherry wine is begun the second day after the crisis. When it appears to me necessary I employ this tonic as a mild stimulant and give it in teaspoonful doses every four or five hours for a day or two after the crisis up until midnight of each day. But usually it is administered in tablespoonful doses three times a day with his meals. At this time I endeavor to avoid any medication except the tonic. An alimentary canal that is clear of medicine is more apt to accept food and digest it as you know. At no time throughout the attack do we fail in strongly urging him to take broth and soup, and in some cases milk.

In my opinion one should first clear the way for the taking of nourishment by eliminating thoroughly at the onset and continue proper elimination; second, begin with the tinctures at once; third, feed the patient by all means available in order to sustain his strength; fourth, give no more medicine than is necessary; fifth, stimulate and stimulate freely when the time comes; and, lastly, stop all medication except a tonic soon after the crisis. In some cases it is advisable to give a few doses of spirits of nitre or the solution of potassium citrate during the first several days, but usually the large quantity of water drunk serves to produce ample elimination through the kidneys. It is well to order a tablespoonful of Epsom salt on the fifth or sixth day and again a few days after the crisis.

If the patient perspires freely I do nothing to check it, but urge him to keep his body and his arms well covered at all times. He should lie between blankets. Sheets and muslin gowns are often the direct cause of a chilling of the body.

Every precaution should be taken to avoid chilling the body; if he insists upon arising for any purpose his body and his feet should be well protected. I ask that the air in the room be fresh at all times but always warm, and cool air of the night must be guarded against. I think that all cases of pneumonia or influenza make better progress when the air in the room is warm. Nothing is worse for him, in my opinion, than to permit him to remain in a cold room, or to wheel the bed near an open window. If his bed-room is cold I immediately remove him to any room in the home, provided it can be kept warm. While making an examination I expose only a small part of the body at one time.

I do not allow alcohol rubs; any sort of baths, or a change of clothing until the crisis has been safely passed. Nor do I permit jackets or any sort of emplastrum to be applied to his chest. I insist upon eliminating everything that is unnecessary, and use every means available to avoid wearying and worrying and frightening the patient. Rushing in oxygen tanks, using the aspirating needle, whispered conversations, and repeated withdrawals of blood for examination—these, together with other measures that are often of no value whatever in saving your patient's life usually worry him greatly.

Every two or three hours after the second or third day has passed the attendant changes the patient's position to the opposite side. If he be delirious or bordering on coma he will have difficulty in breathing while on his back, his delirium is usually worse, and coughing occurs with greater frequency.

Just why the tinctures given together apparently succeed in checking the onset of pneumonia I am unable to say, but I am certain they do aid in aborting pneumonia if given properly. I know no more about their action than those physicians know about the action of Roentgen rays in the successful treatment of lupus and tinea of the scalp which is now accepted as a cure. Several theories may be advanced explaining their modus operandi, but such theories might in future years prove to be idle speculation. The fact remains, however, that the manner in which these tinctures have affected the course of pneumonia in my patients is, I think, remarkable.

A résumé of the results I have obtained in treating pneumonia may be interesting to you. In twenty-one years I have lost only four cases of pneumonia—less than one per cent. Almost all were treated in the patient's homes. No record has been kept of the number of cases attended in that time, but I think a conservative estimate would be between 450 and 500. Many were taken care of during the epidemic of 1918 while with the U. S. Public Health Service in this state and on the Iron Range in northern Minnesota. The same initial treatment was employed in both pneumonia and influenza during that service and in every instance the patients recovered. No person having pneumonia or influenza died that I attended from the beginning of the disease while with the U. S. Public Health Service. The records of that service are of course obtainable. Three patients died in this state and one in Minnesota that I visited, but all had been under the care of other physicians for several days and three of the four were moribund when I saw them.

In all probability my cases were quite similar to those attended by any physician in general practice. Many were habitual drunkards in whom the disease ran the entire gamut of distressing symptoms, including delirium. Many cases were among the poor who lived in the midst of squalid and insanitary surroundings. In some cases during the epidemic other members of the family were ill of influenza and the attention given to the pneumonic was irregular and incomplete. While attending some cases, especially among the miners in northern Minnesota the floors and walls of rooms were badly fouled with sputum of delirious patients, and it was necessary to spread papers on the floor in order that we could approach the patient's bed.

I think that the tinctures given together are of as great value in the treatment of influenza as they are in pneumonia in aborting the disease. Furthermore, my opinion is that strychnine, nitroglycerine, and digitalin combined in a hypodermic tablet and given alone or with brandy is the very best stimulant obtainable, and is almost as valuable a remedy in pneumonia as are the combined tinctures.

A true picture of the respiration and heart during the critical period cannot be thoroughly ascertained without frequent use of the stethoscope. The instrument I employ has a small bell with thick and short tubing. A large bell

bridges the depression between ribs so that it is not in perfect contact with the skin. Neither the bell nor the tubes should be touched with the fingers when it is possible to move the patient so that it rests evenly against the skin. This precaution enables me to detect many chest sounds that I cannot hear in any other way with an ordinary stethoscope. Occasionally I press the bell down with my thumb nail. Rubbing of bed clothes or a garment against the skin during rapid respiration often serve to confuse the examiner, too. I hold my breath during the time I endeavor to locate sounds with the stethescope.

In treating pneumonia I take nothing for granted. If a nurse records a pulse at 120 when it is 140 the physician is at a disadvantage if he accepts those figures. I think he should know all about his patient's condition at all times. During the crisis I remain with the patient until some improvement appears and if called away soon return.

The few drugs described in the above treatment of pneumonia have served as loyal and trusted soldiers. With their aid men have again steered out into the open stream who had abandoned their oars and were entering the shadows. I do not give other drugs or try other methods in treating pneumonia because the treatment described has saved the lives of almost all my patients. I think as Galen did who long ago taught that "it is hazardous to experiment in a case which involves the life of a human being."

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THE FARM THE BIRTHPLACE OF NOTABLES

After a study of the biographical sketches of people who appear in the 1923-24 edition of "Who's Who in America," it has been found that 25.9 per cent. of present-day American notables were born on farms; 24.5 per cent. in villages and towns; 24.8 per cent. in small cities; 20.6 per cent. in large cities, and 4.1 per cent. in suburbs.

OBSERVATIONS ON THE TREATMENT OF GOITER*

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The thyroid gland is an extremely labile organ. Its functional activity varies with season and sex, with age and exercise. Its response to variations in other endocrine organs is marked; hence during puberty, menstruation and pregnancy, we frequently find hypertrophy of the gland. The character of the food likewise, apart from its iodine content, has a definite influence on thyroid activity. A diet, rich in proteins, has been proved experimentally to produce increased function. Tryptophane, which is present in all proteins except gelatin and zein, and is said to be the precursor of thyroxin, is possibly largely responsible for this effect. It has been shown that the ingestion of certain other animo acids, such as tyramine and histamine, has the opposite effect, namely, a reduction in the size of the gland. According to McCarrison, fats in excess cause thyroid hyperplasia. It is largely as the result of the foregoing observations that a diet consisting chiefly of milk and vegetables has been recommended for toxic and exophthalmic goiter patients.

In 1820 Dumas and Coindet demonstrated the value of iodine in goiter therapy, but it remained for Marine and Kimball to show that endemic goiter was a preventable disease associated with a deficiency of iodine in the food. Pregnant women with goiter should be given iodine, because a certain amount is essential to the normal development of the thyroid of the fetus in utero.

Treatment of Simple Goiter during childhood and the adolescent period is medical. Attention to personal hygiene, removal of infective foci and the administration of iodine are the proper measures to be adopted. After the age of twenty years, iodine should not be administered, except in minute doses, such as are used in prophylaxis. Probably the iodine treatment of established goiter in adults is, on the whole, doing more harm than good; its indiscriminate use cannot be too severely condemned. The number of cases of induced hyperthyroidism one sees and the

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number of cases reported in the literature, has rapidly increased during the past few years. Jackson[1] states that twenty-five per cent of his cases of toxic goiter treated last year were of this type. A simple goiter in a patient over twenty-five years of age is usually permanent and if causing local or toxic symptoms, or is unsightly, should be removed surgically.

In toxic goiter (and by this term I mean any colloid or adenomatous goiter that has developed toxic manifestations) *the treatment* is positively surgical. Removal of the diseased portion of the gland is followed by complete relief from symptoms. Operation on these patients during the acutely toxic stage is, however, attended with great danger. Reports from some hospitals show an operative mortality for this group, equal to that of true Graves' Disease. These hypertoxic cases are frequently misdiagnosed true exophthalmic goiter and it is only by a careful histological study that the correct diagnosis can be made. Where the enlargement is unilateral, as in a single adenoma or cyst, resection-enucleation of the affected lobe is all that is necessary. Should both lobes be enlarged as in colloid goiter or general adenomatosis, bilateral resection is indicated.

Speaking in a general way, operation in these toxic goiters can and should be fairly complete for the following reasons:

1. Adenomata may be left and from these undetected nodules recurrences may develop.

2. The possibility of malignancy, present at the time of operation (rare), or subsequently developing. Allen Graham[2] claims that ninety per cent of malignant goiters develop from fetal adenomata.

3. Patients with toxic goiter have usually passed the age of forty and their requirements for thyroid tissue are small. Furthermore, the most normal part of the gland is that immediately in front of the posterior capsule, which is the part conserved.

For several years I have been impressed by the marked difference in the condition of the heart in exophthalmic and toxic goiter. In the former, which usually occurs in younger patients, the heart beat, though markedly accelerated, is regular except in cases of long standing. In toxic goiter, on the other hand, cases when first seen, often have definite cardiac arrythmia. The essential difference would appear to be that in exophthalmic goiter there is an excessive stimulation of the accelerator nervous mechanism of the heart, while in toxic goiter, the hormone circulating in the blood early selects the heart muscle, causing degenerative changes. Consequently, many cases of toxic goiter present themselves in the stage of cardiac decompensation and would thus appear on superficial examination to be primarily heart cases. Often the onset of severe heart symptoms is associated with an acute exacerbation of toxemia. I do not believe that this heart crisis ever develops suddenly. Reviewing the history of these patients, one can usually elicit a train of symptoms suggestive of a mild chronic thyroid toxicity, extending over a period of many months or years. The point is, how can these serious cardiac conditions be prevented? The solution undoubtedly lies in the early recognition and treatment of this incipient form of hyperthyroidism. The two outstanding diagnostic features invariably present are a moderate but persistent increase in the pulse rate and an increase in basal metabolism, as shown on repeated examinations. Here the assistance of the basal metabolic test in making an accurate diagnosis is invaluable and should be used in all cases of unaccountable tachycardia, whether the thyroid is enlarged or not. The differentiation must be made particularly from psycho-neurasthenia, incipient tuberculosis and primary and other secondary heart lesions.

The following case, of which there are many, will serve to illustrate this point: Mrs. L., aged 42 years, applied for admittance to the Winnipeg General Hospital. She complained of slight indisposition and general weakness, but on examination nothing organic could be found. She had a small, insignificant adenoma in the isthmus of her thyroid. She was kept in bed and under observation for a few days, during which time her chart showed a constant pulse rate of about twenty beats above the normal line. Further investigation of her cardio-vascular system showed, apart from the tachycardia, nothing abnormal. Her basal metabolism was plus 19. Her past history revealed that two years previously she had had an illness, definitely suggesting hyperthyroidism. Resection-enucleation of the adenoma in this case was followed by definite and continued improvement. A large

number of our severe toxic adenomas on inquiry gave a history suggesting this mild form of chronic toxemia. While I have no brief for indiscriminate operating on cases of symptomless goiter, yet the prevention of the more serious forms of thyreocardiacs demands the recognition of these milder thyroid toxemias and early surgical treatment.

The Treatment of Exophthalmic Goiter (True Graves' Disease) is one of the most difficult of medical problems; calling for the combined cooperation of family physician, internist and surgeon. While we do not know what measures the future may evolve for relief from this disease, at the present time the only adequate treatment is surgical. The one disquieting feature, however, is the high collective operative mortality. In 1921 I wrote 100 hospitals of the United States and Canada for their statistics on goiter. At that time the operative mortality for exophthalmic goiter averaged 8 per cent. Recently I wrote to 200 more hospitals (Category A according to the classification of the American College of Surgeons), and a summary of these later reports show the average operative mortality practically the same, 7.1 per cent.

COMPILED STATISTICS FROM SEVENTY HOSPITALS OF THE UNITED STATES AND CANADA
TWO YEARS 1922-3

	Total Number	Operative Mortality	Percentage
1. Simple Goiter (non Toxic)	1403	10	.7%
2. Toxic Goiter	1352	35	2.4%
3. Exophthalmic Goiter	1116	80	7.1%

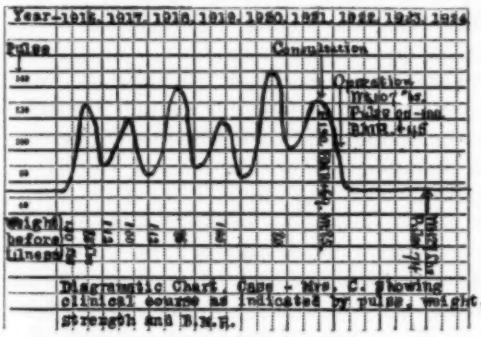
I know that these are not the statistics of Lahey, Crile or the Mayo Clinic or others who have this work highly specialized, but it is the statistics of the rank and file of surgeons and others operating in our best hospitals today. This calls for serious consideration on the part of the staffs of these hospitals, because we are dealing with a disease that is seldom fatal, unless neglected indefinitely. The factor that has contributed most to lowering the operative mortality is, a better selection of the time for operating. With the exception of a very small percentage of fulminating cases that die in the first attack, no matter what treatment employed, we have come to realize that most cases recover from the first and may recover from several attacks. Operating during the acute stage is attended with a high mortality; operating when the attack has subsided gives practically as low a mortality as the operation for simple non-toxic goiter. The two main arguments for early operation are: First, conserving the time in which the patient is incapacitated for work, and secondly, the lessened morbidity incident to a prolonged illness. Conservation of the patient's time is commendable, especially in these days of economic stress, but when bought at the expense of an increased mortality, the value received does not justify the price paid.

The morbidity is not due to the patient having passed through one crisis, but rather to having passed through many crises. The argument, therefore, to operate to cut short a crisis, is not justifiable in the face of the present operative mortality. Those who teach immediate operation, even a preliminary ligation, irrespective of the stage of the disease, are in a large measure responsible for this high general operative mortality.

The natural clinical course of exophthalmic and toxic goiter has not received the study from clinicians that the condition deserves. There is an ebb and flow of symptoms, and these exacerbations and remissions are not of short duration, but more or less prolonged. Their duration is measured by months, not by weeks. Plummer[3] in 1913 made the statement that from the onset of an attack of toxicity until exacerbation had passed off was an average of twelve months. I have observed the clinical course of my cases and studied their past history, and while the course is often variable as to duration, as in all other diseases, yet there are certain outstanding features that are characteristic. The course was never a short one, i. e., from the onset of an attack until its termination was always a matter of several months. The interval of remission likewise was never short. When the remission stage is reached, the patient may experience almost entire relief from symptoms and may be for a variable time practically well. In others, however, there will be a residue of symptoms. The pulse rate may be ten or twenty beats above normal, the capacity for work lowered and the basal metabolic rate if taken, will be constantly above normal. The period of remission is usually followed by another exacerbation and this, within a few months' time, though an interval of some years may intervene. Undoubtedly a few remain well, having no return of

symptoms. The following case is striking and shows the typical periodicity of the attacks:

Mrs. C., aged 29 years, when seen by me in consultation in the Winnipeg General Hospital, had all the classical symptoms of exophthalmic goiter. Her thyroid was moderately enlarged, there was definite exophthalmos and a fine tremor. Pulse rate was 130 but regular. The basal metabolic rate was plus 69. Her past history was most interesting. She had had during the past five years exactly five attacks, incapacitating her for periods of from five to six months each year. I suggested rest until this attack had subsided, as the history showed her previous attacks had done. She did not report for operation until six months later, when I resected both lobes of the thyroid, leaving about one-eighth of the gland on each side. The subsequent history of this patient shows that she has been in perfect health since her operation, having had no return of her former attacks.


Year-1913 1917 1918 1919 1920 1921 1922 1923 1924
Pulse
Convalescence
Weight before illness
Diagrammatic Chart, Case 4 Mrs. C. showing clinical course as indicated by pulse, weight, strength and B.M.R.

Another case illustrates a long period of remission, Miss R., aged 38 years, school teacher, presented all the cardinal symptoms of exophthalmic goiter in the acute phase. Four years previous to this she had complained of similar symptoms incapacitating her almost a year, during which time she was treated for a nervous breakdown. This is the longest interval between attacks that I have observed, with the exception of one case that has remained well for eight years since her first attack. It is questionable if this case is one hundred per cent well.

Hymen and Kessell[4] have made the claim that they can obtain as good results by a period of rest and hygienic treatment as can be obtained by surgery or any other means. They call their treatment "Skilful Neglect." It is, however, the best treatment I know of for the acutely toxic stage. What they have accomplished is, they have carried their patients through their crises into the negative phase of the disease. It would be interesting to observe these patients further to see how many would relapse in the course of time. Their cases appeared to be, judging from the basal metabolic rate, in excellent condition for radical operation.

In the management of my exophthalmic goiter cases during the past five years, I have been trying to eliminate all preliminary surgical treatment, such as injections of boiling water into the gland and ligation of arteries, and I think I have succeeded. This has been accomplished by a careful study of the phases of the disease and operating only when the acute stage has subsided. Furthermore, I have been able to do the complete operation of bilateral resection at one sitting, except in a few cases where it seemed wiser to divide the operation into two stages, first resecting one side and the other two or three weeks later.

The "Hands-off" period varies in every case and depends on the stage the patient is in when first seen by the surgeon. If seen early in the attack a delay of seven or eight months, rarely longer, may be necessary. Whereas, if seen in the later months of the attack, the patient may be well over the crisis and soon ready for operation. Those in the negative phase when first seen require no preliminary treatment. The usual objection made is that these patients will not wait so long for operation. Tuberculous patients will go to bed for six months, a year, and some several years if necessary, because the medical profession are agreed that that is the proper thing to do. I know of three deaths from precipitate operating in exophthalmic goiter, when a pre-operative period of delay was advised. When it comes to a question of eight months' rest or an eight per cent operative mortality, I would take the eight months' rest.

My operative mortality has been as follows:

Simple non-toxic Goiter—122 cases.	Operative Mortality	Percentage
Colloid .....53 Adenomatous ..56 Cystic .....12 Abscess 1	1. Embolus (10th day).....	.8%
Toxic Goiter—79 cases.		
Colloid .....36 Adenamatous ..43	2. Heart Wrecks (year 1919)...	2.5%
Exophthalmic Goiter—61 cases.		
	1. Postoperative Storm following Lobectomy (year 1915).....	1.6%

Lugol's solution will effect an improvement

in a large percentage of these cases, thereby shortening the pre-operative period of rest; others again do not show this improvement. Lugol's solution does not replace the rest period, but aids it as an immediate pre-operative measure. I would not operate on a severely toxic case on the improvement obtained from two weeks' treatment with Lugol's solution, unless the patient was first over the crisis. One of our cases, a young woman in her first attack (the most dangerous type of case for surgery), operated on in the eighth month, had a severe post-operative reaction, though on Lugol's solution for ten days preceding her operation.

Unless the patient, the anxious friends and the surgeon have the necessary self-restraint to wait the most favorable time, the operative mortality in exophthalmic goiter will continue high.

I wish to here thank the Medical Superintendents, the Sisters and the record officers of the hospitals who so kindly furnished me with their statistics on goiter, thereby contributing to the value of this study.

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PUERPERAL INFECTIONS*

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Under the general term puerperal infection are included all those morbid conditions resulting from wound infections due to the introduction, during labor or the puerperium, of infective microorganisms into the female generative tract. The treatment of these conditions has been the subject of considerable dispute and our methods of handling these cases may be the direct opposite of those in the usual practice of many physicians.

The object of this essay is to call attention to the radical change in the teachings of a goodly number of our masters, a marked tendency to discard the practice of active interference, employing in its stead that surgical procedure which would apply to any infective wound elsewhere together with conservative management of an acutely sick woman.

It is now quite universally agreed that a temperature of or above 100.4, lasting for 24 hours, occurring during the puerperal state is proof positive of an infection.

We must carefully eliminate other conditions such as typhoid fever, influenza, acute miliary tuberculosis, tonsillitis, pneumonia, acute yellow atrophy of the liver, tubercular peritonitis, cholecystitis, ureteropyelitis and mastitis, and such examinations should be repeated at intervals of several days to avoid unfortunate mistakes.

It is of considerable value to know the bacteriology of the infection and such should be determined early in the second twenty-four hours. This is only a factor in indicating the line of treatment to be adopted in a given case as the bacterium isolated may be only a harmless occupant the real spread of the disease being due to an entirely different organism, our best guide being the clinical manifestations of the various types of infections.

When the case has been diagnosed as one of infection, we must learn the location, the direction of spread, whether the infection is general, the prevailing type of organism and whether the uterus is empty. A careful study of the history of the case should be made. Was the delivery instrumental? What damage to the birth canal, and what, if any, repair? If not limited to the uterus, have we a local infection with general toxinemia or has the blood been invaded? The severity of the illness is a fair guide, continuous high temperature, rapid pulse and resultant prostration, indicating a pathenemia.

Of an increasing importance in the treatment of this disease is the prophylaxis. So much can be done by prevention and so little by treatment that our efforts should concentrate on a technique involving asepsis, a physiologic conduct of labor and a policy of non-interference. During pregnancy much can be done in preparing the woman for the advent of labor, clear up existing infections such as: intertrigo, eczema, suppurative ears, furunculosis, vulvitis, etc. Instruct the patient in body hygiene. Coitus, self-examination, and the full bath should be forbidden in the later months. Remember the underlying principles of Crede: first, limit the puerperal wounds; second, prevent infection of the neces-

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sary puerperal wounds. Apply the surgical principles of limiting the operative wound and conserving the tissues from the stress of undue manipulation.

It is entirely possible to conduct the majority of labors by abdominal palpation, auscultation and repeated rectal examinations. Only in case of prolapse of the cord, hemorrhage, as in placenta previa, or when the progress of labor has been arrested, is vaginal examination necessary.

If vaginal examination is indicated, use the same precautions as practiced when entering the abdominal cavity. Conserve the bag of waters, and avoid any procedure that tends to shorten normal labor, as manual dilatation of the cervix, having the woman bear down before the head has slipped through the cervix. Do not use ergot until the placenta is delivered. Limit the use of forceps to real indications. Avoid douches in normal labors. Prevent perineal and vaginal tears as far as possible by a patient conduct of the second stage, but avoid the other extreme of permitting the presenting part to pound a tight perineum for hours when a better procedure would be a median or lateral episiotomy with forceps.

Only strict indications should justify interference in the third stage. Await the spontaneous separation of the placenta, as forced efforts at Crede bruise the uterus and diminish its resistance to infection, manual removal being only employed where there is hemorrhage or pathological adhesion.

Inspect the placenta and membranes. If there be membranes to the extent of one-half or placentral parts remaining in the uterus, DeLee recommends their removal at the time of labor. Polak does not invade the uterine cavity even under these conditions. Operative or breech cases call for a complete examination of the uterovaginal tract. A routine vaginal examination at the completion of the third stage of labor cannot be too strongly condemned. Such a procedure would result in a much larger percentage of abnormal puerperae.

Repair all lacerations of the perineum that are one-half inch or more in extent, unless contraindicated by the condition of the patient, after which no internal examinations are to be made and no douches given, unless for hemorrhage. Use only external, vulvar, antisepsis.

Curative treatment being based, as it is, on the recognition of a disease considering the interior of the uterus as a large wound and the port of entry for bacterial invasion. Very divergent views are present in this connection, but the trend of opinion seems to be toward physiological treatment—that is, by aiding and stimulating nature's own methods of combating disease.

The local treatment, according to surgical principles, would be to remove clots, membranes, placental fragments, destroy bacteria, neutralize toxins, and in general cleanse the tract, but such a procedure is unsafe and defeats nature's physiological defence and spreads the disease beyond the limits of the uterus. Intra-uterine douches of antiseptic solutions enjoyed the greatest vogue from 1881 to 1900 and have gradually fallen into disfavor, the objections being:

1. The bacteria are beyond its reach within fifteen minutes after inoculations.
2. Painful, and violent uterine action may be set up.
3. Part of the liquid may escape through the tubes into the peritoneal cavity, resulting in syncope, vomiting, and peritonitis.
4. The antiseptic may be poisonous. Over 50 cases of bichlorid and carbolic-acid poisoning are on record.
5. Trauma or perforation of the uterus, with extension of the infection, or sudden death, usually from air embolism or cardiac paralysis.

If one has to deal with putrid endometritis with accumulated debris an intra uterine douche with several litres of sterile salt solution will be better than any known antiseptic solution; such treatment being contraindicated in other forms of edometritis and when the infection has extended beyond the uterus.

Continuous irrigation of the uterus had some vogue but was abandoned. Swabbing out of the uterus with gauze about a pair of dressing forceps was advocated by opponents of the curet, but little clinical value was claimed for it.

Curage, or digital removal of the contents of the uterus, is endorsed by some authors, including Williams, Hirst, E. P. Davis, Bumm, Ahlfeld, and Pinard, with or without aseptic or antiseptic douches before and after the operation. Curettage has been rather generally employed, but at the present time we find opposed to this treatment, Williams, Watkins, Rees, Bumm, Kronig, Olshausen, and others, some of whom formerly advised the procedure.

The dangers of the curet in the puerperal uterus are those of curettage intensified. It breaks through the leukocytic bank, spreading

the infection into blood radicles and lymph channels. It has been repeatedly shown that it is not possible to remove the uterine content with the curet. Always more is retained than is removed. The bacteria have passed beyond the reach of the curet into the deeper tissues. Perforation, hemorrhage, and air embolism are actual possibilities of the curet, and DeLee claims it would be just as rational to curet the nose and throat in cases of diphtheria as to curet the uterus in sepsis. In the plan of treatment in general use at the Chicago Lying-In Hospital, the local treatment has been practically abandoned, a policy of non-interference with respect to active local and general measures being the rule. The patient is put in complete mental and physical rest, a brisk cathartic administered, with much fluid, an ice bag, or hot water bag, as preferred, is placed over the uterus and ergot and hydrastis 15 m. each given by mouth thrice daily. Sutures in perineum and cervix are removed to provide drainage. Even when certain there is something in the uterine cavity the uterus is not invaded. The patient is sometimes propped up to aid drainage. A policy of let alone is now followed. The patient is watched for localization of infection and occasionally this point is operated on.

This policy of non-interference covering nineteen years and almost 20,000 deliveries has resulted in nine deaths from infection, of which five died under questionable treatment in other hands. In none of these cases did the subsequent course show that a more active treatment would have influenced the result.

From the statistics of the Long Island College Hospital, 5,000 consecutive confinements attended by senior students and delivered in the homes by a simple aseptic technic, without vaginal examinations, the progress of the labor being watched throughout by rectal and abdominal examination, there was not a single death from infection.

This plan of treatment is followed at the New York Lying-In. Dr. A. B. Davis says the puerperas are put out on the roof and let alone. The care is left to the nurses. At the Allegemeine Krankenhaus, Vienna, puerperal infection is treated expectantly, unless there is something in the uterus. This is first removed. At the second Clinic the treatment is expectant without removal of the contents of the uterus, until the temperature is normal. The Germans use rectal examinations extensively. The French say it is too unesthetic for the French woman.

Some authorities are certain that the retraction and drainage of the uterus are facilitated by the Fowler position, supplemented from time to time by having the patient turn over to lie on her abdomen.

As previously stated, interference so far as local treatment is concerned is only indicated where there is hemorrhage. Then the uterus is packed with gauze strips 2 per cent. iodoform to stop the flow and aid in the expulsion of retained masses causing it. This can be repeated upon removal, for several days, if needed. Often when the packing is removed, the foreign matter comes away and the temperature drops. Only after there is sufficient local tissue reaction with involution of the uterus is the removal of retained tissue attempted. One should wait as long as possible, and the procedure is not safe until the temperature has been normal for two or three weeks.

Many writers are not so sure of this position and advise a primary palpation of the uterine cavity, with the immediate removal of its contents. They emphasize the danger of the procedure where the infection is streptococcal, urging that it then be omitted. We have already shown how it was impossible to prove the organism, and surely before the streptococcus could be demonstrated the infection has gone through the uterine wall into the parametrium.

On the other hand, the pyococci types can wait for a few days to see what course the disease will take. Surely the active adherents of this policy are diminishing in number. The great Crede of Leipsig shortly before his death, strongly emphasized its dangers and advised its total discontinuance.

The various forms of douching, curage, curettage and other forms of local interference with the process of healing, as adopted by nature, should be limited to the one indication—to stop hemorrhage.

For those who have abandoned the local treatment, the general measures should be to improve the health of the woman, to raise her resistance and enable her organism to increase its powers of combating disease. Results from outdoor treatment have not been as good as expected. Sleep is necessary, and if rest and quiet does not

bring it, morphin should be used. The patient must be quiet and should be isolated. The dangers to others are well known. Nursing of the child should be stopped. The mother needs all of her reserve force and the child may be infected.

High fever calls for sponging, cool packs and baths, unless contra-indicated by a poor breast condition. Avoid drugs as much as possible. Alcohol has lost favor, but can be used—½ oz. daily, or an eggnog or wine.

The bowels should be carefully regulated, as stated—a brisk cathartic at the outset of the disease. After parametric invasions, cathartics are contra-indicated. The lower bowel is kept emptied by small enemata. Diarrhea may be nature's method of ridding the system of toxins, and unless the patient is exhausted, is not interfered with. Charcoal and salol, or better, magnesi ustra, will control the symptom. Vomiting is always a bad symptom, and, if bilious, points to a fatal ending.

Mouth feeding must be supplanted by rectal feeding. Saline solution with grape-sugar, three drams to the quart, is given by the drop method. Washing the stomach will relieve the vomiting unless of the peritonitic type, against which we can do nothing.

When meteorism is troublesome, milk and molasses enemas will relieve, over-feeding and cathartics being avoided. Physostigmine salicylate is used, 1/60th grain every four hours, but is of little value. The rectal tube with washing of the stomach a little later is of assistance.

Chills are treated with warm coverings, hot drinks and ¼ grain morphin.

Spare the patient every effort. She should not see anyone but those in attendance. Quinine in the dihydrochloride solution up to 30 grains daily has been used empirically in these and other septic conditions and is recommended. Cardiac stimulants are witheld until needed. Digitalis and strychnine are of little value. An abundance of fresh air is better. The patient must be reassured of her recovery. Her mental state influences her physical well being. Your own demeanor should tell her that all is well and many of these hopelessly sick women are very alert.

Under the heading of specific treatment are usually given all those measures used as a last resort, or to make us believe we are doing something. Probably their value would be more apparent were we to use them early in the disease.

Transfusion in infection serves the double purpose of lessening the secondary anemia and raising the leucocytic defense, which together with a raising of the blood pressure helps to restore functional activity of the organs which bear the brunt of the defense. Why not increase our blood resistance at an earlier date, rather than a last resort? A large transfusion probably embarrasses the circulation and engorges the blood forming organs. The temporary effect is an increase in the leucocytes, a raise in the hemoglobin. After 48 hours they rapidly fall. Smaller amounts can be given every third day, 300 cc given slowly, preceded by a hypo of morphin, 1.3 grain. There is less reaction if given in the morning when the temperature is lowest. The advantages of citrated blood are its simplicity. The patient remains in bed, the donor is absent, and we lessen the psychic disturbance.

The serum treatment has not been conclusive. Anti-strepticoccic serum has been used for years. All serum has been tried, horse serum, diphtheria, tetanus. Probably our friend from Philadelphia, armed with his small doses of triple distilled water is doing as well by his patients.

Vaccine therapy here, as elsewhere, in acute infections has been found wanting. Of the drug therapy the list is a long one—mercury in the form of inunctions and the bichloride has been injected intravenously. The late Dr. Stowe used the latter in 34 cases, with no harm, but without decided benefit.

Chalfant and Miller report a series of streptococcic infections treated with salvarsan with rather good results. These results have not been substantiated in the hands of other workers. Colloidal salts of silver, Collargol, as introduced by Crede have been disappointing.

Salt solution, as used in surgical cases, is valuable used by the drop method in the rectum. It is less distressing to the patient than the intravenous or hypodermic methods. It probably stimulates the secretive and excretive organs, may dilute the toxins, and does increase the pelvic circulation.

All are agreed as to the treatment of localized infections. Extirpation of the uterus has been employed to prevent extension of infection several hundred times, with varying success, a general mortality of about 50 per cent. resulting.

If we are able to place the infection as a localized lesion, the following conditions justify the operation:

1. Rupture or perforation of the uterus with beginning peritonitis or during the local treatment within it.
2. Infection of a fibroid.
3. Cancer.
4. Infection with a molar pregnancy.
5. Abnormal adherence of the placenta with infection.
6. Incarceration of all or part of an ovum, as missed labor or abortion with infection.
7. Uterine abscess or gangrene.

The pelvic veins have been ligated with a view to stopping a thromboplebitis. Williams, quoting the literature, gave a mortality of 44 per cent. The operation may be indicated in subacule or chronic cases, but contradicted in acute cases.

DISCUSSION

DR. R. E. L. GUNNING, Galesburg: It has been our unfortunate experience to have a few of these cases recently and we used Young's mercurochrome because we did not know what else to do. We obtained very surprisingly good results. We had four cases and we did not get the severe reaction that Dr. Young has described, that is the temperature reaction and chill, but we did get after the second or third intravenous injection a very severe peristalsis that was easily controlled with tincture of opium. We found that mercurochrome did these patients a great deal of good. I think probably it does more good in cases infected with the colon bacillus than on those cases with streptococcus bacillus, however, I have not had enough experience to determine that.

DR. D. N. EISENDRATH, Chicago: I want to cite a case I saw in consultation. A girl who had been confined down in Central Illinois came to Chicago with a diagnosis of malignant endocarditis in the third week of her puerperium. She had had a chill. Her temperature would shoot up to 103 or 104 and then drop down to normal. The chills would come on at recurrent intervals. Dr. Wright made the diagnosis, because the gynecologist could not find anything in the genitalia, of malignant septic endocarditis. After she had run this course for three weeks I was asked to see her. I suggested the possibility of one of those cases that the Doctor has referred to. We catheterized the ureters and found colon bacillus in both kidneys. We washed them both out. After the first washing the temperature shot up again. After the second washing it remained down. I simply want to tell you of the necessity of bearing this in mind before thinking of yellow atrophy, because the germs can go very easily through the lymph channels.

DR. F. F. MAPLE, Chicago (closing the discussion): The work of Dr. Young regarding mercurochrome as far as the report went certainly sounds very conclusive. The small number of cases that have occurred show you that we have not had a large amount of experience in treating those cases that we probably should have.

The kidney infections that Dr. Eisendrath spoke of are very frequently overlooked.

DIAGNOSTIC AND THERAPEUTIC X-RADIATION IN PREGNANCY*

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THE DANGER OF DIAGNOSTIC X-RADIATION IN PREGNANCY

On December 17, 1924, Dr. Irving F. Stein presented before this Society an excellent resumé of the newer diagnostic methods of gynecology, with special reference to the use of the x-rays and artificial pneumoperitoneum. Tonight, it is our intention to offer a few remarks on the use of the x-rays in pregnancy, either for diagnostic purposes only, or for the correction of some pathologic condition that may be associated with the gestation. We especially wish to emphasize the distinction, from the standpoint of danger to the mother and to the child, between the diagnostic and the therapeutic use of the rays.

The possibility of danger to the fetus or to the mother from exposure to the rays is a question that has arisen not only in the profession but among the laity as well. This question is frequently asked both by doctors and patients when the suggestion is made that an x-ray examination be resorted to in order to determine the existence or non-existence of a pregnancy, or to ascertain the exact position of the fetus *in utero* or the presence of complicating factors.

Let us emphatically answer this at once by stating that it is our belief that when used for the short time that is necessary to obtain a diagnostic plate, especially if the exposures be made at suitable intervals of time, there is no danger of unpleasant or disastrous sequelæ to either mother or child. We believe that most obstetricians and radiographers concur in this opinion. We should add, however, that the time has not yet arrived for a positive assertion to this effect. We are not ready to accept unqualifiedly the positive statement made recently by Shenton and Horwitz (1924), of England, that there is no danger, and that new-born babes show complete immunity to ordinary x-ray exposure. How do they know this? Why should new-born infants

*Read before the Chicago Medical Society, Feb. 18, 1925.

show such an immunity when it is well-known that the x-rays have a special predilection for embryonic tissues? It will require years of experience with much clinical data to arrive at a positive conclusion as to this most important matter. We do know that a note of warning has been sounded by men of recognized standing, to which we will directly refer. This warning cannot, in justice to ourselves or to the patients, be ignored.

It is because of this latent fear of injury that, as Reuben Peterson (1924) has very recently emphasized, many conservative obstetricians have neglected what we believe is a most valuable addition to the diagnostic means at our command. This careful observer believes, with us, that there is no danger to either fetus or mother when the rays are used for short exposures only and at infrequent intervals.

How long a time is required in order to obtain good diagnostic plates of pregnancy? A few seconds only. It is the custom in the x-ray Department of the Post Graduate Hospital, as followed by Dr. Cushway, and also in our private laboratory, to make exposures of but four seconds, using a gap-spark of from four to six inches. Peterson makes an exposure of from eight to twelve seconds, with a spark-gap of from five to six inches, a focal distance of from 28 to 30 inches, the kilovoltage varying from 45 to 55, and the milliampéreage from 20 to 30. Candy, of England, makes an exposure of about five seconds, using 25 to 30 milliampéres with a spark-gap of 5½ inches. Double screen superspeed films are used in addition to the Potter-Bucky diaphragm.

It hardly seems conceivable that any damage can result to the delicate embryonic tissues or to the adjacent maternal structures from an exposure to the rays of so transient duration as this. Dr. Preston M. Hickey, head of the Department of Röntgenology in the University of Michigan, estimates that the current for ordinary diagnostic x-ray work is not more than one-fiftieth as strong as that used for therapeutic purposes, as Peterson has reported. Still, it must not be overlooked that anything may be possible in medical science. Even such a trifling exposure as this, especially if it be repeated now and then during the pregnancy, may result in such intangible alteration in the body metabolism of the embryo as to cause in varying degrees an inhibition of physical or mental development, or both, in post-natal existence. Such a possibility has been indicated in a few authentic instances already recorded. However, only after many thousands of exposures have been made in thousands of pregnancies and the after results noted in the first decade of life in the children so exposed can any final conclusions be reached.

THE DIAGNOSTIC VALUE OF X-RADIATION IN PREGNANCY

No more positive sign of pregnancy can be adduced than the visualization of portions of the fetal skeleton. Embryologists tell us that the earliest centers of ossification appear in the fetal bones in the seventh week of embryonic life, the first one showing in the clavicle at this time. The great majority of the centers have appeared by the end of the twelfth week. Hypothetically, were there no disturbing elements to prevent the development of clear radiographs, these bony centers would appear on the plates at this time—that is, at about two months of embryonic existence. Clinically, however, this is not possible. There exist certain factors which prevent the clearness of detail that would be necessary for this early visualization. These, briefly, are the varying thickness of the maternal walls; the quantity of liquor amnii that is present; the pelvic position of the uterus, rendering it necessary for the rays to traverse a considerable distance through the maternal body before striking the fetal structures; the cartilaginous formation of the fetal bones; and the occurrence of fetal movements which would naturally result in indistinctness, distortion, and possible duplication of the fetal bones, thereby complicating the diagnosis.

Maternal obesity will evidently obstruct the passage of the rays, as will excessive muscular development in the abdominal walls. Hydramnios, by causing undue scattered radiation, will lessen the sharpness of detail and definition. Obviously, it is impossible to secure absolute fetal immobilization at any given moment. Candy largely overcomes this difficulty by using a broad calico compression-band which, if drawn taut, more or less fixes the fetus during the time of exposure.

Because of these apparently insuperable difficulties it was thought at first that it would not be possible to visualize the fetus before five

and a half months of pregnancy. With increasing knowledge of the methods of using the rays, and with improvement in the delicacy of the technic employed, and especially by the use of the Potter-Bucky diaphragm, these obstacles have been largely overcome, the shadows appearing distinctly at earlier weeks. Today, by the abdominal route, the patient lying face downward, and especially by Edling's subcoccygeal method, it has become possible to recognize fetal bony structures, notably the head and spinal column, at from 3½ to 4½ months.

The work has been facilitated in certain instances by the use of artificial pneumoperitoneum, by which method it is possible to recognize alterations in the shape of the uterus from that of the unimpregnated organ as early as the second month. There is a certain, though probably almost negligible, danger attached to the introduction of gas into the peritoneal cavity, which, together with the difficulty of putting the method into operation in the hands of the average observer, limits its applicability. In all cases it is important to avoid over-exposure, which increases the density of the picture.

The diagnostic value of radiography in pregnancy is both positive and negative. Visualization of the fetal bones is conclusive evidence of the presence of a gestation; and the older the fetus the better is the observer enabled to arrive at more or less positive conclusions as to the position and presentation and as to the presence or absence of multiple pregnancy. In those cases in which the possibility of pregnancy is denied the method of diagnosis becomes exceedingly valuable. Some estimation as to the relative sizes of the fetal head and pelvic inlet may also be obtained in later pregnancy. Radiopelvimetry, however, is still more or less in its infancy; and radiography of pelvic deformity—which is also as yet but imperfectly developed—needs further careful study. It may ultimately afford considerable help in obstetric work.

Absence of traces of fetal bones in supposed cases of pregnancy of six months or more would be as strongly a negative sign of pregnancy as their presence would be a positive sign. In this connection, Peterson regards it as almost obligatory for the abdominal surgeon to employ the x-rays before attempting a hysterectomy for supposed fibroma or myoma of the uterus, especially when such a growth is accompanied by menstrual suppression at or about the time of the menopause. Serious and mortifying mistakes may be prevented by the observance of this very wise precaution.

It is possible to determine hyper-ossification of the bones of the fetal skull by pre-natal radiography, and thereby determine a condition of post-maturity of the child. This may be regarded as a refinement of the x-ray diagnosis of pregnancy; as may also the recognition by means of the rays of the presence of certain forms of monsters, such as anencephalus and dicephalus, before birth. J. T. Case, of Battle Creek, in 1917, was the first to report a radiographic diagnosis of an anencephalic monster, and Campbell and Willits reported the second case.

THERAPEUTIC X-IRRADIATION AND PREGNANCY

Quite a different problem arises when we consider the application of the x-rays for therapeutic purposes in women during the child-bearing period. These rays have been largely used in recent years for the control of hemorrhage due to uterine tumors or to hemorrhagic endometritis; or for the purpose of inducing a temporary or permanent castration of a patient suffering from a grave affection, as tuberculosis or Basedow's disease.

As is well known, the hemostatic action of the rays results from their influence upon the ovaries, and not upon the uterine tissues. The dosage for the purposes indicated is much greater than that required for diagnostic plates; the time of exposure is much longer; and the applications are made at frequent intervals. Thus, in order to produce a temporary castration in women, as Seitz and Wintz have calculated, the dose is from 30 to 32 per cent. of the erythematous dose; 36 per cent. produces permanent castration. There is a slight variation in these figures due to the variable ray-sensitiveness in individuals. When used either as a hemostatic or for the purpose of castration, every obstetrician and radiographer will admit the imminent possibility of danger to the child, should pregnancy exist at the time or shortly follow the therapeutic application. This conclusion is inevitably forced upon us when we compare the results obtained by numerous investigators in pregnant animals subjected to the action of x-rays and other penetrating light-rays.

This danger, it would appear, is four-fold in its possibilities: 1. Will the rays result in a

temporary or permanent sterility of the woman from a destruction of the germinal elements of the ovary? 2. Will the follicles, if not destroyed, be so injured or altered as to result in the development of abnormal offspring showing imperfect or defective growth of the whole or parts of the embryos, or even in the formation of monsters? 3. Will the growing embryo be so damaged as to result in embryonic death and early abortion? 4. Or, finally, will the fetus, apparently normal at birth, show defects in its postnatal development; or, if the irradiation has occurred in late pregnancy, will it show disturbances of metabolism later in life? These are the obstetric and fetal possibilities which only the accumulation of large numbers of clinical reports can finally determine.

That these dangers are not purely hypothetic, the report of Bailey and Bagg, of New York, in 1923, of unfortunate results following irradiation in pregnancy, will testify. These observers have compiled the following authentic cases: Aschenheim (1920), the premature delivery at the eighth month of an imbecile child with microcephalus and nearly complete blindness, in a woman who had been irradiated for uterine myoma during early pregnancy; Warner (1921), twenty-four pregnancies in seventeen women treated by irradiation for menorrhagia and myoma, with nine abortions and three children showing deficiency in weight and height in from six to eight years' time; Stettner (1921), an infant, born at term, showing deformity of the ears, eyes, and genitals and a general disturbance of coördination, followed at two years of age by abnormality of the mental functions with delayed ossification and retardation of growth sixteen months below normal; Clark and Keene (1922), four miscarriages in seven patients, three occurring in one woman, following irradiation in early pregnancy; Berkley (1922), a case of infantile x-ray alopecia present at birth; Archangelsky (1923), early abortions in seven cases after irradiation, histologic examination of the embryos showing destructive changes in the central nervous system. To these cases collected from the literature, Bailey and Bagg (1923) add three cases of their own, as follows: A woman irradiated during pregnancy, who gave birth to a child with spina bifida and double club-foot; another who became pregnant after irradiation for Hodgkin's disease and gave birth to a child with malformation of the head, including an open sagittal suture with exposure of the brain; and another who conceived after irradiation for uterine fibroid and was delivered at term of a still-born fetus.

To these reports we can now add the case of Ramos and Bazán (1924), of a woman, radiated for a sacro-epitheliomatous metastasis in the mediastinum during early pregnancy, who was delivered at 8½ months of a child whose skull-bones showed islands of defective ossification; in a few days the child developed a desquamating erythrodermia covering the entire body but most pronounced on the scalp; and that of Naujoks (1924), of a woman upon whom oöphorectomy was performed for cancer followed by irradiation. Soon after she was found to be pregnant and was delivered at term. At the age of two years the child is a dwarf idiot with microcephalus. Dr. Grulee, of this city, in a personal communication, reports the case of a woman who had been taking x-ray treatments of the ovaries for sterility when she discovered that she was three months pregnant. The child was born at eight months; it weighed but 5½ pounds; never talked; could stand only when holding onto something; was admitted to the Presbyterian Hospital when 18 months old suffering from severe convulsions and laryngisms stridulus which ended fatally the same day. Necropsy showed the right half of the brain to be much smaller than the left, and the falx cerebri pushed over to the right; microgyria was marked on the right side.

From these case-reports it seems permissible to concur in the conservative conclusions of Bailey and Bagg. These authors believe that irradiation during early pregnancy may produce death and abortion of the fetus; and that irradiation during late pregnancy is not so likely to produce gross developmental abnormalities in the child at birth, but may cause retardation of growth subsequent to birth. They believe that irradiation of the ovum during early pregnancy should never be permitted, and that in later pregnancy it should be resorted to with extreme care.

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RECENT PROGRESS IN SEWAGE DISPOSAL IN ILLINOIS*

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Within the last three years a number of notable sewage treatment works have been installed or are being installed in the state of Illinois. They rank as important plants not only in this country but in the world. They are being watched by engineers and health officers in this country and abroad and it is quite probable that operating experience gained at these several installations will increase confidence in sewage treatment as a means of restoring streams to a clean condition so that they will support fish life and no longer be a nuisance. With this confidence will come a more insistent demand for a cessation of stream pollution.

Heretofore a great many sewage treatment works have been installed throughout the state, but they have all been small works often poorly designed and almost universally neglected after their installation. The result has been to reflect discredit on the efficacy of sewage treatment or at any rate cause the public to take a hopeless view and accept polluted streams as a necessary evil.

The new works are on a large scale, carefully designed in the light of the best available experience and experimental information and will be operated under the direction of trained engineers also skilled in chemistry and biology.

Calumet Plant. The largest of the new sewage treatment plants is the Calumet plant of the Chicago Sanitary District, located just west of Lake Calumet. This plant is designed to serve a population of 150,000 and an eventual tributary drainage area of 18,000 acres. The present installation provides for clarification only, inasmuch as this is a sufficient degree of treatment to meet present needs. Later on, however, secondary treatment will be required and the plant is so designed that secondary treatment may be added at minimum cost and minimum difficulty. Furthermore, the entire plant is so arranged that extensions for the purpose of increasing the capacity can be readily made.

The principal features of the plant are a screen and grit chamber and a battery of 32 Imhoff tanks with accompanying sludge drying beds. Each tank is of a size to provide a retention of the sewage for 2.9 hours on the basis of 1¾ million gallons flow per day per tank, which is a normal rate. The sludge storage capacity is 2.3 cubic feet per capita.

The sludge beds are designed on the basis of 0.33 square feet of bed area for every person. This is a rather limited area but ample provision is made for extension.

Inasmuch as further treatment for providing a more completely purified effluent will be required in the future, it has been deemed wise at the present time to utilize two of the 32 tanks as activated sludge tanks, to add necessary settling tanks and sludge drying equipment and to install ¾ of an acre of sprinkling filters together with accompanying secondary settling tanks. It will thus be possible to try out these two processes comparatively on a full size experimental scale and on the actual sewage to be dealt with. The results of these experiments will show conclusively which of the two processes is the more economical and which produces the best results. It is to be noted also that the design of the Imhoff tanks is such that should the activated sludge process prove preferable to sprinkling filters, then all the tanks may be converted into aeration tanks by merely putting in false bottoms.

This plant is provided with a large laboratory and an ample technical force not only to control the daily routing operation of the plant but also to carry on tests and experimental work.

Decatur, Illinois. The next largest plant is the sewage treatment plant at Decatur, Illinois, which is designed for a population of 60,000 people. This plant is being built to relieve gross pollution in the Sangamon River below Decatur. The problem at Decatur is somewhat complicated by the presence of wastes from a large corn products works, which wastes are large in volume and high in organic matter. Furthermore, the organic matter is in a form that is much more resistant to biological decomposition than is ordinary domestic sewage. However, it was found as a result of preliminary experiments that when the corn products wastes and the city sewage are mixed together, the mixture is amenable to treatment by methods adaptable to the treatment of domestic sewage, but somewhat more conservative rates of application of the mixed sewage and wastes are necessary.

The Decatur plan comprises a grit and screen

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chamber, Imhoff tanks, sprinkling filters and settling tanks.

The Imhoff tanks are of sufficient size to provide retention of the sewage for a period of two hours based upon the normal flow of sewage and with sludge storage capacity of 2.87 cubic feet per capita. The sludge bed area is .67 square feet per capita.

The plans call for 6 acres of sprinkling filters with an average depth of 5.78 feet. The population loading will thus be 10,000 people per acre or 1,730 per acre foot. These rates are very conservative and are made so on account of the presence of corn products wastes. Owing to limitation of funds only one-half of the area of sprinkling filters called for in the plans has been installed so that on the basis of the present population of 43,000, the loading will be in the neighborhood of 14,300 per acre, which is still a conservative figure and is expected to give quite acceptable results for a period of 5 years in the future and perhaps even longer.

An experimental plant has recently been placed in operation to determine the possible advantage of activated sludge as a preliminary process to the present filters. If found successful and economical it will be substituted for the proposed additional filters. One of the advantages anticipated from this arrangement is minimizing the rather strong odors of the corn products wastes.

The final sedimentation basins are circular in form and retain the sprinkling filter effluent for a period of about one hour. The basins are providid with revolving plows, an adaptation from gold refining practice which continuously removes the sludge from the basins and delivers it either to drying beds or back to the Imhoff tanks for digestion. The sludge accumulated in these tanks is principally humus, which flakes off from time to time, from the stones in the sprinkling filter beds.

The Des Plaines River Plant. The next plant of importance is the Des Plaines River activated sludge plant of the Chicago Sanitary District, located at Broadview, Illinois, near the new Speedway Hospital. This plant is designed for a population of about 40,000 people and comprises coarse rack screens, grit chambers, revolving fine screens, 4 aeration tanks, 13 sedimentation tanks, 6 sludge concentration tanks, a building housing a variety of presses and driers for dewatering of sludge and a building housing pumps, blowers, air filters and laboratories.

This plant has been very flexibly designed and provided with elaborate means for measuring and controlling every operation so that it is in effect a large experimental plant as well as a plant for actually treating the sewage for a group of suburban towns lying along the Des Plaines River. Since the installation of this plant, it has been more or less remodeled to provide for trying out new modifications in the process and new details of design. The results obtained through the studies and experimental work carried out at this plant have been utilized in preparing the designs for the North Side sewage treatment plant of the Sanitary District, which is to be capable of handling the sewage from a population of 750,000 to 800,000 people. The preliminary contracts for this plant have already been awarded and the total estimated cost is in the neighborhood of $16,000,000.

The Des Plaines River plant occupies a tract of about 25 acres on the west side of Des Plaines River. The sewage is collected from the various villages in a 66-inch intercepting sewer which cost approximately $580,000. The sewage which is delivered at the plant site at a low elevation must be pumped through a total lift of about 32 feet, including friction in pipes. The pumps as well as the air blowers for furnishing air to the activated sludge process are housed in a handsome brick building with stone trim and steel frame work. The equipment is all driven by electricity obtained from the Sanitary District power plant at Lockport.

The fine screen is a circular disc 14 ft. in diameter, shaped somewhat like a hat. It revolves slowly while the sewage passes over it. It is inclined so that in revolving only a part of it is in the water. As the screen plates emerge from the water they are cleaned by means of revolving brushes. From the fine screen the sewage passes to the aeration tanks, which are of different dimensions and with different arrangements of air diffusion plates. So-called "filtrose plates" consisting of ground quartz cemented together is used for diffusing the air at the bottom of the aeration tanks. The air comes through the plates in extremely fine bubbles which cause the tanks to have an appearance of boiling. Each plate, which is about one foot square, will pass 10 to 14 cubic feet of free air per minute,

The retention period in the aeration tanks may be varied at will, but normally is about 5 hours. From the aeration tanks, the sewage goes to the sedimentation tanks, where the sludge is settled out and removed by means of the Dorr thickeners. A portion of the removed sludge is returned to the incoming screened sewage and the excess is taken to the storage tanks, where it is stored and prepared for dewatering.

Several types of sludge presses and driers have been used at this plant with a view to determining their relative merits. The dried product thus far has commanded a reasonably good price as a fertilizer.

The effluent from this plant goes into the Des Plaines River above Riverside. Until the plant was built the river at and above Riverside was exceedingly foul and rendered unfit for pleasure purposes, for which it is ideally adapted by nature in this general locality.

The total cost of the Des Plaines River plant was approximately $1,000,000. This is a high cost for a plant of this capacity, but bearing in mind its elaborate and experimental character, the cost is not out of line.

Urbana-Champaign Sewage Treatment Plant. The sewage treatment plant at Urbana-Champaign was built for the purpose of eliminating pollution from Salt Fork, a small stream which drains the two cities of Urbana and Champaign. The plant is designed to take care of a population of 45,000 people. The present population using the sewers of the two cities is 33,000.

The problem at Urbana-Champaign is not complicated by industrial wastes as at Decatur. The sewers of the two cities are on the separate plan so that the sewage is uninfluenced materially by storm water.

The plant comprises a screen chamber, a battery of 6 Imhoff tanks and sprinkling filters. Owing to limitations of funds, final sedimentation basins of the usual type could not be installed, but for the time being the effluent will be discharged into lagoons so arranged that they may be cleaned periodically.

The Imhoff tanks are designed to provide a retention of sewage for about 3 hours. The sludge storage capacity is 2.32 cubic feet per capita. Sludge beds are provided with an area of .67 square feet per capita. There are 1.67 acres of sprinkling filters 10 feet in depth. A population loading on these sprinkling filters is 26,900 per acre or 2,690 per acre foot. The large loading reflects the normal character of the sewage as compared with the loadings used at Decatur.

The plant is being installed at a cost of $427,000.

Elgin. Sewerage improvements have recently been authorized at Elgin, Illinois, for the purpose of reclaiming the Fox River below Elgin. The details of this project are now being worked out, but in a general way it will be an installation similar to that at Decatur and Urbana-Champaign. The total improvement involving intercepting sewers will cost in the neighborhood of ¾ of a million dollars.

There are some recently completed small sewage treatment plants in the vicinity of Chicago, some of which will have good operating control, notably four plants recently completed for the North Shore Sanitary District. These will be of particular interest to the smaller cities as showing what may be accomplished on a relatively small scale.

Other cities are actively considering treatment of sewage, among which are Springfield, Peoria, Galesburg and Belleville. Preliminary reports on these cities have been recently completed.

With the completion of all the plants spoken of in this paper, Illinois will become the point of greatest interest in the United States with reference to sewage disposal. Health officers and other medical men interested in public health and public cleanliness will find it both interesting and profitable to follow operating results. If these operating results prove as good as is confidently expected, then a new era in the restoration of clean streams and fish life will have begun in the Mississippi Valley.

ULTRA VIOLET LIGHT THERAPY IN A FEW NOSE AND THROAT DISEASES

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When light is passed through a glass prism, it makes a spectrum dividing the rays into seven colors. At one end of the spectrum are red rays of long and longer wave lengths the farther we go, while beyond the visible red rays we still have invisible ultra red rays. At the other end of the spectrum we find violet rays, and likewise beyond the visible violet rays we have invisible

ultra violet rays of shorter and shorter wave lengths the farther we go.

Light and electricity were formerly taught as separate subjects; but today, light is regarded as an electromagnetic phenomenon, and considered one form of electricity. The electromagnetic waves of different wave lengths have different properties. The shortest known today are the gamma rays of radium, which are measured in quintillionths of an inch, while waves utilized in wireless and radio transmission often reach many miles in length.

The ultra violet are chemical rays and have a definite chemical action. If allowed to shine upon the skin they will produce a sunburn, providing the time of exposure is greater than the skin's resistance. It was once thought that sunburns were due to hot waves of light, but it is now known to be the contrary. It is the cold, invisible ultra violet light rays which produce the sunburn. This is easily demonstrated by laying a piece of ordinary window glass over a portion exposed to sunlight; the skin beneath the glass will not sunburn, while the exposed area beyond the glass may even blister. Glass is transparent to the visible light and heat waves of the sun, but it stops the ultra violet rays which cause sunburn. All energy of the animal body comes from the sun in the form of light energy, which is the greatest synthetic agency on the earth's surface. Light also brings about the synthesis which underlies all vital processes. With its short wave lengths, it picks out the very bonds of the atoms themselves, known as valence electrons, tears away from, or injects them back into the atom, which makes light waves a much more powerful chemical agent than heat. If a mixture of carbon dioxide and water is illuminated by the light of a mercury arc in a tube of pure silica, the light, being particularly rich in ultra violet rays, the mixture quickly develops oxygen, carbon dioxide, carbon monoxide, formaldehyde and hydrogen peroxide, this reaction continuing, only to the point of equilibrium and never becomes complete. The energy of ultra violet light rays, when absorbed by the skin, is a powerful energy in the general system. Oxygen is particularly sensitive to the action of these light waves, and many organic compounds oxidize in this light when in the presence of oxygen, but are stable in this same light, providing oxygen is absent; therefore, light is our greatest potential energy, it puts into the circulation pure oxygen formaldehyde. Ultra violet light therapy is not new; it has been in use for thousands of years, but during the past fifty years marked attention has been given to its therapeutic possibilities. Lamps extremely rich in ultra violet light waves have no advantage over natural sunlight, except that this form of light is always available, and thus can be given in much larger doses, in a shorter time, than is possible with sunlight. The recovery in some cases from this form of therapy often sounds like a fairy story. I will confine my remarks to ear, nose and throat cases, yet ultra violet rays act equally as well in many constitutional and skin diseases, such as psoriasis, varicose ulcers, acne, keloid, eczema, tubercular sores and tubercular bone conditions. Old chronic discharging ear cases following scarlet fever, or other children's diseases that have tormented every medical man here during his practice are now being cured with ultra violet light rays. In these cases the organisms are destroyed in a short period of time, the red blood cells absorb the rays, which charges them with oxygen formaldehyde and they are distributed to every part of the ear.

Toxines are broken down in the same manner that germs are destroyed, organic compounds are neutralized after absorption and transmission, the reaction shows an increased hemoglobin normalization of the white blood content, an increased flow of blood and lymph, a distinct relief of congestion, marked tissue nourishment, free elimination of waste products, and a direct soothing action on the whole nervous system. Acute colds, whether in the head or chest, are immediately benefited by simply throwing the ultra violet light rays into the mouth, throat and nose, often after the second treatment the patient will say they feel as though they have fully recovered. Cases of osteomyelitis of the jaw, referred by dentists for surgical treatment, have been cured with ultra violet light rays as well as apical abscesses near dental bridges.

Acute frontal sinusitis responds quickly, recovery taking place without operative interference; the intense headache stops in less than one hour, pus becomes thinner, drainage easier, and a normal ventilation is resumed, yet chronic sinusitis requires many treatments. Last winter three doctors in my section of the state, all of whom looked upon ultra violet light therapy as more

or less of a humbug, each developed an acute frontal sinusitis, after using every known remedy and suffering three or four weeks, they presented themselves for treatment, stating they had no faith whatever in the chemical action of ultra violet light, but were willing to try anything once, as they had reached a point where they could not continue practice much longer without help, surgical or otherwise. The first doctor within thirty minutes, after a ten-minute exposure in each nostril, stepped about the office like a boy in his first pair of boots, saying he never felt better in his life. The second M. D., who had walked the floor two nights before, after a ten-minute exposure, lay down on a couch at 9 a. m., fell asleep, and did not waken until 4 p. m. The third went directly home and in less than one hour his wife called, saying she feared something must be wrong with the doctor; he has been asleep over thirty minutes, and is snoring something terrible. I recite the history of these cases because they are medical men, in active practice without selfish motive in view, yet others with the same ailment have the same experience. Three or four treatments as a rule give complete relief.

Acute tonsillitis likewise fades away quickly under radiation. But it is to be borne in mind that the tonsil represents two entirely distinct types of tissue; 1, a relatively elementary low grade lymphoid tissue, constituting the true glandular portion, and 2, a much more highly organized fibrous tissue, constituting the trabeculae and capsule, i. e., the supporting structures, which surround and give form to the organ.

Of these two types of tissue, the lymphoid alone furnishes incubation and soil for septic infection. The fibrous tissue is not susceptible to ordinary infection, as is demonstrated in the case of adults, who have never had subjective or objective, local or systemic symptoms of tonsillar disease. The tonsils in these individuals present an ideal picture of the normal physiologic absorption, of lymphoid tissue, the fibrous tissue alone remaining in the small firm nodule, which represents the tonsil in the healthy adult. The excess lymphoid tissue in the tonsil is an embryonic element, and should have been absorbed by the time adult life is attained.

In those cases where absorption by normal process does not take place, and lymphoid tissue remains, perhaps becoming diseased, and in any case constituting a menace to health, surgery is able to remove this superfluous and threatening tissue only by a complete extirpation of the entire tonsil, which involves not only the removal of the undersirable lymphoid tissue, but with it the harmless and helpful fibrous tissue. Now radiation, on the other hand, offers a more excellent way. It dissolves and sterilizes the lymph tissue, at the same time aiding metabolism effectually and permanently cleaning up the areas which afford a harboring place for foci of infection, while it leaves the fibrous tissue intact as a protection against further invasion by bacteria, which can and do penetrate the mucous membrane. The judicious application of focalized ultra violet light from a water-cooled quartz lamp to the tonsil and fauces sterilizes the surfaces and promotes reconstructive metabolism in the remaining tissues. These light waves are also absorbed into the blood stream through the capillaries, bringing about needed blood changes. There are many fundamental reasons for seeking a better solution to the problems of tonsillar infection than tonsillectomy, chief of which is the disappointing fact that in a large percentage of instances (perhaps the majority of instances) tonsillectomy does not solve the problem. Yet tonsillectomy must be used in a large per cent of cases which are too far advanced for beneficial radiation therapy.

When all is said and done, and every concession made to the value of tonsillectomy and the skill and thoroughness of the operator, by this operation only a portion of the offending tissue is removed, and, as previously pointed out, a good deal of unoffending and useful structure is sacrificed.

Radiation meets both the positive and negative requirements of the situation more adequately than any other procedure at the present time. Its advantages are: 1. None of the contraindications to tonsillectomy have any deterrent influence upon radiation. On the other hand, patients in whom surgery is contraindicated can be safely treated with radiation.

2. The disagreeable and often times serious after results of tonsillectomy are entirely absent in radiation. This exemption includes shock and depressant effects, which always immediately follow the operation. Radiation improves the patient's general health and resistance from the

first. This is one of the earliest noticeable effects of the treatment.

3. Radiation reaches not only the tonsils themselves, which are but a portion of the infected tissue, but all of the adjacent and surrounding lymphoid tissues of the pharynx and lingual areas, cleaning up the entire seat of infection, and thus does actually solve the problem at issue, producing the systemic results for which the treatment is undertaken.

4. Radiation removes only the infected lymphoid tissue, leaving the harmless and useful fibrous structures intact, and cannot possibly produce any scar tissue or throat deformity.

Radiation must not be looked upon as a cut and dried treatment for every tonsil case, as each case is a law unto itself. It is only a short time until there will be a marked reduction in the number of tonsil ennucleations.

Atrophic rhinitis, that stinking nose disease, sweetens up under radiation and is not troublesome to the patient, but they are obliged to take at least one treatment each month.

Hay fever patients receive instant relief and if treated once each week are able to go out nights, like other people. Their relief is not permanent, the trouble returning each year, but fortunately less severe. Therefore, in closing, please bear one thing in mind, ultra violet light rays produce nothing more than a chemical change, charging the red blood corpuscles with oxygen formaldehyde. This powerful disinfectant kills germs, breaks down toxines, restores the blood and cellular tissue to a normal metabolism.

DISCUSSION

DR. C. F. BURKHARDT, Effingham: I was very much interested in Dr. Middleton's paper for the reason that I have been using the quartz lamp since about the first of January and I must say that he is really responsible for my purchasing one of these outfits. I will say that I am very much pleased with it but to be absolutely frank about it, I have not been able to get the results out of these old chronic ear conditions that Dr. Middleton claims he has been getting. Perhaps it is due to my faulty technic in using this light; but the cases in which I have been getting the best results with the treatment are throat conditions, especially chronic pharyngitis and chronic laryngitis. In those conditions I have been getting some very nice results. I have also found that in acute conditions in the tonsils you sometimes find an acute ulceration on the pillars. I notice that they clear up very readily with the light treatment.

I have also secured nice results in infective hypertrophied turbinates where there is hardly sufficient hypertrophy to remove, and where the patients do not want them removed.

I also agree with the Doctor in regard to the frontal sinus and would like Dr. Middleton to tell us a little more about his technic of ear treatment, especially with reference to suppurative ears.

DR. JOSEPH C. BECK, Chicago: I have fought this light proposition for a year or more and refused to put a machine like that into the place until Frank Novak came along and showed me that it was really good for something and that something was in the cases that come in great numbers to the rhinologist, viz.: the suppurative nose, the hyperesthetic nose, the water-logged nose. They are certainly wonderfully influenced by the use of this light both in the nose or, rather, generally. And it seems that the work of Dr. Middleton ought to be taken up from a much wider and greater aspect, the general conditions as I look upon this nasal condition in many of these nose and throat conditions as local manifestations of general conditions.

I think that the Doctor's report is very interesting and is proved by other men going into this thing and doing the same thing. But it seems to me that he has reported mostly acute conditions. We are dealing mostly, I think, with chronic conditions.

But gentlemen the underlying pathology is against all possibility of this ray or that of any other ray doing away with fixed pathological states. Do not expect too much from this sun-light or any other rays.

CONGENITAL PYLORIC STENOSIS. REFEEDING A METHOD OF TREATMENT AND OF POSSIBLE PROPHYLAXIS*†

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The treatment of so-called congenital pyloric stenosis is of particular interest because it illustrates two relatively new principles of therapy.

The first of these is the clinical predominance of physiology over pathology; that is, the therapeutic importance of function over structure.

The second is the appreciation that the welfare of the whole baby is more important than that of any one of its parts.

Both medicine and surgery are pretty well agreed as to the first of these principles. The present-day surgeon operates more to restore function than to repair structure. To the surgeon and the roentgenologist as well as to the pediatrician, we owe much of our newer knowl-

*From the Northwestern University Medical School and the Michael Reese Sarah Morris Hospital for Children.

†Summary of paper read at the Jackson Park Branch of the Chicago Medical Society, November, 1924.

edge of pathologic pyloric physiology. On the pediatrician, however, rests the responsibility of developing and applying the second principle. Surgery by its very nature—it being a form of mechanico-therapy—must concentrate upon a local lesion, attempting to correct the abnormalities in both structure and function. The surgeon sees the patient only during periods of injury, deformity or crisis. On the other hand, the modern pediatrician sees his patient immediately after birth, and by constant supervision attempts to keep him well. The pediatrician is in better position to consider the welfare of the baby as a whole, and to estimate the effects of any local abnormality. *In doing so he has learned that many abnormal conditions, such as diarrheas, digestive disturbances and even eczemas may improve proportionately to the improvement in the general condition of the child.*

THEORIES

During the last decade, our knowledge of that condition known as congenital pyloric stenosis has been enriched by several theories, each with a basis of some fact.

1. A mass of hypertrophied muscle forms a mechanical obstruction around the pylorus.

2. A mass of hypertrophied muscle tissue, by its very presence, leads to spasm of the pylorus.

3. The entire symptomatology may be due to pure muscular spasm of the pylorus and possibly even the stomach. For etiology, there may be:

(a) Some mechanical irritant in the musculature or the serosa.

(b) A reflex from an inflamed adjacent organ.

(c) A pathological constitution, as vagotonia or spasmophilia.

4. A prolonged spasm from any of the above causes may lead to muscular hypertrophy.

While each of the above has been advanced in theory, there is probably an element of truth in all and I have no doubt that as our knowledge increases, we shall find an identical symptomatology produced by any one of a variety of different factors. However, without going into detail concerning the mass of argument and evidence, it becomes a good working hypothesis to consider every case as one of spasm.

Some fifteen years ago, practically every case of obstinate vomiting with loss of weight, constipation and peristaltic waves, was considered due to tumor. These fifteen years have revealed this syndrome so frequently in infants with no tumor, that the present day tendency is to consider the part played by the tumor *per se* as almost incidental. Consisting, as it does, of hypertrophied *normal* muscle, I regard it as essentially harmless. Any harm results only from the associated spasm. In other words, if the symptoms are overcome, the tumor may be overlooked.

PRINCIPLES IN TREATMENT

Until the present, all efforts at therapy have concerned themselves with the first of our two principles. Pediatricians by medication and diet, and surgeons by the scalpel, have attempted to improve the function of the pylorus. Few, however, have attempted this by treating the child as a whole.

It occurred to the writer that in the non-operative treatment, the spasm might better be influenced by the use of the second principle. The best index of the infant's general condition is his weight curve. The treatment then ignores any such local symptoms as vomiting, peristaltic wave, delayed emptying time and even tumor, but must make the child gain in weight. *It is remarkable to note that, coincidental with the rising weight curve and improved general condition, the local symptoms gradually and certainly will disappear, and the child's recovery be complete.*

The non-operative treatment must of course take both principles into consideration.

1. An attempt to influence the spasm.

As local spasm is in a way largely dependent upon the general condition of the nervous system, we must consider the influence of the environment. In this respect no single factor is as valuable as a calm unemotional nurse. A nursemaid often may be more satisfactory than a highly trained but highly strung hospital nurse. Treatment in a hospital ward, due to constant changing of nurses is not ideal, though I have seen cases of obstinate vomiting improve remarkably when the child was taken from the home of a very nervous mother to the private room of a hospital.

Drug treatment also consists of quieting the child's general nervous tendencies. Paregoric and bromides are indicated.

As regards any definite effect of drugs upon

the local spasm, I am somewhat skeptical. Papaverin has its disciples. Haas believes atropine a specific. Whether these drugs really act locally is not certain. Perhaps their action is also general, as in conditions such as vagotonia.

2. A direct attempt to improve the general nutrition.

Here are two indications:

(a) To keep the stomach free of stagnating food.

(b) To get food through the pylorus in any way, shape or manner possible.

To prevent food stagnation, it is self-evident that if the pylorus admits any food at all, a considerable number of feedings small in quantity will leave less residue than a small number of feedings large in quantity. The other indication is also met, for with such a schedule more food enters the body in twenty-four hours. *I believe unquestionably that these babies should be fed every two hours rather than at longer intervals.*

REFEEDING

To get food into the intestines, I have reasoned as follows. If the symptoms are caused primarily by spasm of the pylorus and possibly of the stomach, in the period following such a spasm, there must be a temporary muscular relaxation. This would be the ideal time for the bottle. Suppose one offered a small quantity of food, waited to see this food rejected by the customary gastro-pyloric spasm, and then after vomiting had ceased, offered more food? This idea must have occurred to others, but I have seen no definite mention of it in the literature. *It is surprising and gratifying to note how frequently the second feeding is retained following rejection of the initial portion.*

The nature of the food has been the subject of great discussion. Of all foods recommended, the most successful has been thick cereal. Hans Hahn in 1911 used it for a case of nervous vomiting. Ibrahim refers to Birk who used it for the first time in pyloric stenosis in 1913. In this country, McClure in 1914 applied the idea to a case of nervous vomiting, and later Sauer to pyloric stenosis. I believe that thickened cereals, due to their consistency will be vomited less than other feedings, but I do not consider them as an absolute essential. If the doctor adheres patiently to any one particular diet and persists with refeeding, the child will usually get well.

A variation of the above technique has also given fortunate results. For the first five minutes, give the baby a nipple with a very small hole. If the patient is breast fed the milk may be expressed and fed from a bottle. During these minutes, the child exerts himself as if his grastro-pyloric musculature were endeavoring to reject the small quantity of liquid taken. Then a nipple with a larger hole is substituted. *The child will often retain the second portion of the feeding.*

A trick which some pediatricians have employed to facilitate the passage of food, is to place the child upon its right side. During any period of pyloric relaxation, some food may escape into the intestine.

Keeping the stomach clean and refeeding may be combined as follows. It has long been noted that stomach washings are of value, but the stomach tube is exhausting to these little patients, irritates the mouth and throat and possibly produces nausea. Spontaneous vomiting, on the other hand, gives no subjective symptoms. In this refeeding technique, the initial feeding may be used as a sort of stomach wash. Thus if an infant were on ten feedings of one and one half ounces, a preliminary feeding of one half ounce may be given. If this is vomited, the stomach is emptied of its contents, and after ten to fifteen minutes is in a condition more receptive to the remaining ounce. If the food is retained, so much the better, for every ounce of food assimilated, is a factor in the child's recovery. If the baby is breast fed and there is no food to be wasted, the initial feeding may be simply water.*

There is no limit to the number of devices which may be employed to get food through the contracted pylorus. It is largely a question of the ingenuity and common sense of the doctor and the nurse. But one thing is certain. *If enough food in any way, shape or manner can be got into the intestine, all symptoms will disappear in proportion to the rise of the weight curve and the child will get well.*

Scarcely one decade ago, pyloric stenosis led to death from starvation or to almost certain

*This technic possibly might be used for some types of the vomiting of pregnancy. I have suggested it to some of my obstetrical friends and they have reported some success. One or two glasses of lukewarm water before the meal empties the stomach, and after this vomiting, there is little nausea, and the meal proper is retained.

death from gastro-enterostomy. Both the Rammstedt operation and the more skillful use of cereals have given remarkably fortunate and remarkably parallel results. The mortality from a number of different surgical reports averages 10.6%, from a number of non-operated medical reports, 10.2%. A. Strauss, with a modification of the Rammstedt technique claims a mortality of 2.7%. Ibrahim with non-operative treatment claims 1.9%. It is clear that there is little to choose as to method.

PROPHYLAXIS

There is however another way of approaching the problem. The idea that the condition is primarily one of spasm has long appealed to me. The observation that all types of chronic vomiting recover with a rising weight curve should not be overlooked. If the case is primarily spasm, any neglect of the condition should lead to its intensification. If a rising weight curve heralds recovery, early treatment might effect a possible prophylaxis.

With this idea in mind, commencing ten years ago, I treated every case of obstinate vomiting as a case of potential pyloric stenosis. I assumed that if the condition were allowed to persist, a more pernicious syndrome would develop. Many of these infants showed symptoms which would have lead to the diagnosis of congenital pyloric stenosis. Vomiting was projectile, weight was stationary and peristaltic waves frequently present. In a few not seen at the onset, the x-ray showed degrees of retention usually considered absolute indications for operation. In six of the latter, the parents had refused permission for operative interference. These as well as all the other vomiting cases made absolute recoveries. In every one, the recovery has been sure and permanent. Whether hypertrophied muscle still exists in the pylorus of these children is not known, for the children are alive and well. Possibly remains of the tumor persist, but so do the scars of healed tuberculosis.

In the light of our broader knowledge of today, I have no doubt that many of the early cases showing symptoms typical of pyloric stenosis were cases of nervous vomiting, pure pylorospasm, muscular incoordination or vagotonia. If these had been untreated, would they have developed tumor? That, of course, is an open question, but of one thing I am certain. If they had remained untreated, they would have developed a spasm of more marked degree.

By no means do I wish to state that no patient should be operated on. The occurrence of pyloric tumor in a seven month's fetus suggests that some patients are born with well-marked pyloric hypertrophy. Though this may be true, I do believe that if one starts active treatment early, one may prevent the development of the more dangerous associated spasm. The pediatrician as well as the surgeon must see these patients before it is too late. I believe that if one practices this sort of prophylactic idea, and, independent of any local symptoms, insists upon a rising weight curve, the more severe cases will be fewer and fewer.

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INTRA-PERITONEAL INJECTION OF FLUIDS IN INFANTS—FOR THE GENERAL PRACTITIONER*

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Intra-peritoneal injection of fluids directly through the abdominal wall into the peritoneal cavity, is a measure which has been developed only recently, but is being widely accepted as a therapeutic measure of definite value. The first reference to it in the literature is by Blackfan and Maxcy[1] in 1918, who state that Howland saw it used on Prof. Garrod's service in St. Bartholomew's Hospital, London. In the few years which have followed there have been numerous other reports, practically all of which have been favorable.

Much of the data thus far published has been upon infants, but the procedure need not be limited to those so young, although its greatest field will probably remain in the first two years of life.

Considering the methods available for giving of fluids to the dehydrated child; they may be divided into enteral and parenteral methods.

Enteral routes, or by the alimentary tract, are three in number:

By mouth, through the nasal tube, or per rectum. What are the objections to these methods? It is often difficult to get the child to drink any quantity, even approximately a sufficient volume of liquids, whether fed by spoon, bottle or glass.

*Read before Section on Medicine, Illinois State Medical Society, Springfield, May 7, 1924.

And the little that is taken, is often vomited. The nasal tube, using a soft rubber catheter, size 8 or 9 French, is better, allowing for careful control of water given, but still not having control over that lost by vomiting. Rectal administration of fluids, whether given in volume or by drip or similar methods, is unsatisfactory, because diarrhea is often present at the start, and even if it is not present, rectal intolerance is quickly established in smaller children.

Parenteral routes, or those outside of the alimentary tract, are also three in number and comprise:

Subcutaneous,
Intravenous, and
Intra-peritoneal.

Subcutaneous injection, or hypodermoclysis does not permit the giving of a large quantity of fluid, or if it is given several puncture-wounds must be made, each of which gives the child discomfort, and the procedure leaves the child restless and irritable, two things we wish to avoid, especially in a weak infant. The method is not without pain, and the inadvisability of frequent repetitions of the injection is apparent.

Intravenous injections include those made into peripheral veins, such as in the arm, neck, the femoral vein, or into the superior longitudinal sinus, through the anterior fontanelle. Many of these dehydrated, anemic children have collapsed veins; cutting down on the vein is often necessary, except in the femoral, and a certain amount of practice is advisable before one injects the femoral vein with confidence. Intra-sinus injections are not devoid of danger. In all of these, the entire volume injected is dumped immediately into the general circulation, and overloading of the heart must be constantly guarded against. So the volume injected must be limited and the same objections against repeated injections prevail, as in the case of hypodermoclysis.

Before discussing the merits and demerits of intra-peritoneal injections, let us first describe how it is done.

First, the apparatus that is needed; an infusion bottle or percolator to hold the fluid, connected by rubber tubing to an ordinary intravenous needle, without obturator, is all that is required. The size needle used is usually about an 18 gauge. Some use a large syringe and inject by force, but that is not necessary and perhaps undesirable. The above must be sterilized, and the site for introducing the needle must be surgically clean, usually with tincture of iodine and alcohol. Absolute asepsis is necessary. The site chosen is usually a little below the umbilicus, in the linea alba, or at the edge of the rectus, but this place can be varied at will, just so the needle is not introduced directly over a solid viscus or one fixed by a short mesentery. The solution is injected at approximately body temperature. The patient is placed in a recumbent position, the movements of arms and legs restrained. The skin and subcutaneous tissue are picked up by the thumb and index finger, and the needle inserted at an oblique angle, pointing upward. A sharp thrust is made through the skin, and then when the peritoneal cavity is entered, the resistance to the needle quickly disappears, just as in going through the lumen of a rather large vein, or in making a lumbar puncture. The fluid enters by gravity, and usually ten or twenty minutes are consumed in its administration. The fluid is allowed to run in until abdominal fullness is noted; this is sometimes made apparent by change in the pulse or respiration before much visible distention is noted. Then the needle is withdrawn quickly, and pressure is made over the point of exit for a moment, after which a collodion seal is applied.

Indications: It will be found of value in *any* condition accompanied by dehydration. In infants this is often present in pathological conditions of the gastro-intestinal tract accompanied by diarrhea or vomiting, with marked water-loss; but in many conditions other than nutritional disturbances it is advisable to give water and nourishment in this manner. Marasmus, (atrophy or athrepsia) acute intestinal intoxication (known also as gastro-intestinal intoxication, alimentary intoxication, anhydremia, and toxicosis) acute ileo-colitis, acidosis, pyelitis, bronchopneumonia, and difficult feeding cases, are conditions in which intra-peritoneal injections are often indicated.

Fluids Used for Injection: Glucose in various strengths up to 10 per cent. have been used. It has several points to commend it—it is easy to dissolve and sterilize, it offers a means of giving nourishment for it has a rather high caloric value, and spares protein destruction, which is important because these weak children can ill afford to have body tissues destroyed.

Sodium bicarbonate is said to have an effect

upon acidosis; however, Marriott[2] has shown that the acidosis comes about in this manner: due to the dehydration, there is a diminished blood volume, which causes a decreased blood flow through every part of the body. This relative stagnation of blood leads to an accumulation of acid products of metabolism in the tissues, and a decreased alkali reserve in the blood, or acidosis. As a result, it is not necessary to give alkalies, but to simply replace the fluids, and the acidosis will disappear, because the conditions causing it are no longer present. So it would seem that sodium bicarbonate solution has no especial advantage. Some advise Ringer's solution. *However, simple physiologic sodium chloride solution, or ordinary salt solution, will probably produce just as good results in the average case.* Some claim that there is less tendency to abdominal distention following the injection of normal salt solution than after glucose or bicarbonate. The few times that I have seen any distention, it is true, have been after using glucose; this distention is temporary, however, and soon passes off.

How much fluid should one give during one injection? The amount will vary with the size of the child, and the degree of dehydration. Ordinarily the amount will vary from 150 to 400 c. c. It is not necessary to try to inject extremely large amounts at one time, because the injections can be repeated frequently—as often as every eight hours if necessary. Some patients require only one or two injections—others require many more.

Regarding the absorption of the fluid from the peritoneum, we have some rather accurate observations. Dandy and Rowntree[3] in *Annals of Surgery,* have reported from 40 per cent. to 60 per cent. of phenosulphonophthalein excreted in the urine one hour after intra-peritoneal injection. This is almost as much as after intra-venous injection. Denzer and Anderson[4] have reported a number of cases which have come to autopsy after intra-peritoneal injection and have carefully measured the unabsorbed fluid. They report as follows:

Amount	Interval between injection and death	Fluid recovered
150 c.c.	2 hrs.	60 c.c.
150 c.c.	20 hrs.	½ c.c.
250 c.c.	1¼ hrs.	150 c.c.
200 c.c.	16 hrs.	18 c.c.
275 c.c.	30 hrs.	0 c.c.
250 c.c.	16 hrs.	
125 c.c.	40 hrs.	0 c.c.
100 c.c.	28 hrs.	0 c.c.

By using a capillary pipette, they were able to demonstrate the existence of very small quanities of liquid, and to determine that the fluid was completely absorbed in 12 to 24 hours by getting dry taps with their capillary pipette in that time. Then to prove that they could detect the presence of a small amount of fluid if present, they injected 5 c. c. through the linae alba and after waiting a short while, made a separate tap over in the iliac fossa and recovered fluid. They seemed to think that absorption followed whether the solution were hypotomic, isotonic or hypertonic. An isotonic solution or hypotonic is probably the safest for routine use. Blackfan and Maxcy gave a 20 pound baby 250 c. c. and 200 c. c., 18 hours and 6 hours respectively, before death, and at necropsy, only 20 c. c. could be recovered. Hertzler states than in general, if the amount injected does not exceed 10 per cent. of the body weight—about 30 per cent. is absorbed in ½ hour, and at the end of 24 hours less than 30 per cent. remains.

Knowing that the fluid is absorbed, the question arises as to how much is retained. If the fluid were immediately thrown off by the skin, or in the urine, feces, or expired air, the procedure would be of doubtful value. With this point in mind, I checked up the weights of a number of patients, to whom I gave injections. The weights were taken 24 hours after the injection, and I found that the average weight gain was 3.365 ounces. The size of injections given varied from 150 c. c. to 300 c. c. These were on patients who were not doing well and would certainly not have gained any amount like that. 12 different cases were figured—one case having 14 injections.

The advantages of this method are numerous: Comparatively large amounts of fluids may be given and the amount can be well controlled.

The fluids are retained.

The administration is very easy and simple.

It is attended by very little danger.

The discomfort to the patient is very little, the only sensation of pain being when the skin is punctured; the patient often falls asleep while the injection is being given. This has happened time and again, in marked contrast to the discomfort caused by hypo-dermoclysis.

Toxins in the blood are diluted.

Blood volume and blood flow are increased, by relieving the high concentration.

Urinary output is increased.

Nourishment in form which can be utilized may be given, as well as fluids.

The general comfort of the patient is increased and according to Epstein[5] the reserve energy of the body can be better utilized.

Contra-indications and precautions advised before using the intra-peritoneal route are comparatively few.

We should have the bladder empty, as it is theoretically possible that a distended bladder may be punctured.

The injection should not be made in the presence of great addominal distention—the distention should be first relieved, by the usual methods of eliminating tympanites.

Furunculosis of the abdominal wall might be so extensive as to cause a danger of infection.

Danger from penetrating the intestinal wall is much less than might be supposed: it is very hard to puncture a flaccid gut with a large caliber needle, unless of course one should go in so far as to impinge the gut between the needle point and the posterior abdominal wall. One can easily demonstrate the truth of this at autopsy by trying purposely to puncture the gut with a large needle.

Adhesions might so fix the intestine as to make puncture possible, but adhesions of intestinal peritoneum to parietal peritoneum are very rare in infancy. The fluid is usually given midway between feedings if the child is taking its feeding regularly and in any quantity.

Bearing these simple things in mind and maintaining rigid asepsis, there seems to be very little danger in the procedure.

The procedure or the claims for it should not be misinterpreted. It is contended that it will supply water to the dehydrated, and to a lesser degree,—nourishment. However, it alone, will not check a diarrhea; neither will it materially help a marasmic baby whose condition is due to tuberculosis or to syphillis, or analagous diseases.

It is not to be used only as a method of last resort, but chiefly before dehydration has resulted in serious damage to important viscera and before marked metabolic changes and protein destruction have occurred in the body.

It is simply an individual procedure to be used much more in the future. Its simplicity, ease of administration and therapeutic value commend it to the general practitioner.

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DISCUSSION

DR. JULIUS HESS, Chicago: Dr. Crawford has given you a most admirable presentation in the way of a case for intraperitoneal use of fluids. There is very little left for me to say except possibly to emphasize a few of the points of technic and then raise the question as to the dangers.

In the first place the fluids should always be given by gravity. In the second place the child should be restrained. Third, the child should be given the benefit of a local anesthetic, a little subcutaneous anesthetic, such as novocaine or something of that type. The bladder should be emptied. The abdomen must be relieved if destended. These things we should all remember as essential to the success of the operation.

I do not remember hearing the Doctor say it could be repeated at short intervals but I think he drew that conclusion. In most instances it is absorbed in from two to six hours. We are frequently in the habit of repeating it in twelve hours, and frequently at shorter intervals than that if the child's condition demands it. As a rule the blood pressure is raised somewhere between ten and fifteen millimeters and the pulse becomes steady and slower.

The question that always arises in my own mind which I like to answer for myself in each individual case,—is this method of peritoneal administration of fluid the one of choice for the giving of fluids in the given child?

I cannot altogther agree with Dr. Crawford in the lack of danger. It so happened that I had the pleasure of having Dr. Crawford work in our clinics for something like a year and I know how painstaking and how very careful he is. Undoubtedly he avoided some accidents by that very great care which he would use in his practice. But seeing this method pursued in large institutions where we change interns every thirty days possibly, or at least every sixty days, there are dangers. When I give an intern permission, and I always require that he has permission, I always ask myself whether I would allow that intern to put that needle in my own child. This method is practically safe if you will avoid dangers and if you will be clean.

Now one thing which we have discarded in our clinic is the use of anything but a saline solution, either normal saline or Ringer's. We have stopped the use of glucose and sodium bicarbonate intraperi-

toneally. That is based on the experience of two cases that went to autopsy, sterile peritonitis, which we interpreted as being due to our hypertonic solution. Whether we are right in that I do not know. I, however, believe that the intraperitoneal route is one of the most efficient methods of counteracting dehydration that we have.

Just one thing in the practical application of the intraperitoneal administration of fluids, that is, the administration of blood. More recently, we have only had about five cases, we have put citrated blood in the peritoneal cavity in amounts varying from one to three hundred c.c. This blood is always typed beforehand. The experiments that were performed by Siperstein of Minneapolis, who has popularized the method in this country, show that about 50 per cent. of the blood was absorbed in the first eight to twelve hours so we could not repeat the blood injections as quickly as the salt solution but I think it can be safely done once in twenty-four hours for two or three administrations. You not only get the blood value but the food value as well. Whether the red cells are preserved is a question.

Yet there are dangers. Last night an intern called me up and said the patient had passed the blood per rectum and wanted to know if he should notify the staff surgeon. I told him the surgeon would in all probability refuse to enter the cavity and to sit tight. He informed me this morning that the patient showed no bad effects. That the method has its dangers is not to be denied.

DR. H. E. BLANKMEYER, Springfield: If Dr. Crawford has stated correctly that the first case of record was in London in 1918, I would like to say that America has beaten that by two years. In a service on the Floating Hospital, Boston, in 1916, one of the junior house officers was giving a subcutaneous infusion of a saline solution. The tube on the left side did not show much resistance and the bottle emptied much more quickly than usual. There was some 300 c.c. that disappeared somewhere. He said nothing about it but while passing by the next morning found the child alive and very much better.

I am confident that the man gave an intraperitoneal injection without knowing it. But we were afraid to follow it up with the happy results that we have since gotten by this means.

DR. W. L. CRAWFORD, Rockford (closing the discussion): I was very glad Dr. Hess emphasized the way he did about the care that you must use. Most of you men are handling your own cases and you will only do things to them which you would do to members of your own family and you would use that care which is necessary.

I was also glad that he mentioned the work that is being done with blood transfusion and what Dr. Siperstein of Minneapolis has done, reported recently. More work will undoubtedly be done in the next two or three years. We will know a great deal more about it and the permanent value it will have.

About the question of the type of disease in which we use this I made the statement in the article that it could be used and would be of value in any disease accompanied by dehydration. In practicing among children I think the quickest dehydration, the most marked dehydration, comes in children who have vomiting and diarrhea. Especially in the summer time do we see a lot of it. Of course, any child may vomit from any sickness. They do that easily and they often get diarrhea from, or accompanying, ordinary illness. They often have their water reserve depleted in very quick time. It does not matter whether it is pyelitis or just the ordinary diarrhea that we see in the summer time or whether it is the so-called cyclic vomiting, as we call it, for want of a better name, or gastro-intestinal intoxication; any of these diseases will quickly dehydrate a small child and it is the replenishing of body fluids that will often keep the child alive. If we can give liquids in the ordinary way and have them retained there is no reason for an intraperitoneal injection being made but if liquids are not retained when given in the usual way then here is a method that will get a controlled amount of water into the body and it will be retained.

In the course of a year you men collectively must see a rather large number of children passing out simply because of this dehydration. Many of those that are lost because of this fact may be saved if you will use the above described method of replacing fluids.

CLINICAL BRIEFS OF ABSCESSES OF THE ORAL AND PHARYNGEAL REGIONS*

W. D. BLACK, M.D.
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ABSCESS OF THE SUBLINGUAL GLAND

Usually abscess here is due to an infection of the gland from the secretion becoming blocked and later infected.

When no infection takes place we simply have a retention, or so called ranula, which generally subsides when the sublingual duct becomes patent.

Should the duct become blocked by a calculus there is more danger of the gland becoming infected and forming an abscess.

I have only seen two or three cases where the ranula became abscessed and they were very difficult to cure, requiring considerable time.

The symptoms are fever, pain (not severe), swelling under the tongue and interference with taking of food and speech to some extent.

The treatment is simply draining and if the discharge persists, then packing the gland, and

*Read before the Tri-County Medical Societies (of Franklin, Mary's and Osage, September 17, 1924.

if it becomes chronic the gland will have to be dissected out.

It is sometimes necessary to have an x-ray examination made to see if any calculus exists, but frequently this is of no value, even where one really exists, due to the nature of the stone and from the thick tissues around the gland.

Probing will sometimes be of value and occasionally the stone can be milked out.

What is said about the sublingual will also apply to the submaxillary only the symptoms differ from the anatomical position of the gland.

Parotitis or suppuration of the parotid gland may occur after stomatitis or rarely from suppuration of the ear.

In the bad cases they are usually secondary to severe fevers—typhoid, septic infections or septic pneumonia, etc.

The route of infection is either through the blood vessels in metastatic cases or through the duct (Stenson's) or caries of teeth or an infection through the denuded epithelium of the mouth.

The process is generally unilateral.

Symptoms are the usual ones of an inflammation, pain, swelling, tenderness, fever, sweats and immobility of jaw.

After several days resolution sets in and the abscess either opens spontaneously through the skin, or drains through the duct or into the mouth and occasionally through the external auditory canal.

Necrosis of the jaw or severe hemorrhage may occur through erosion of a vessel wall. In many cases they are terminal and then a part of the general septicemia and almost always fatal.

Treatment: These cases are ones for a general surgeon and not the practitioner. The incision should be long and deep to penetrate the substance of the gland.

Alveolar Abscess. I will not go into this in detail, as in most cases they are due to carious teeth, generally in children before second dentition.

Occasionally they will erode the floor of the antrum and produce antritis or infection of the antrum.

Often an antrum (suppurating) will burrow through the alveolar process and cause an alveolar fistula.

Have seen three cases where the alveolar abscess caused a streptococcemia and ended fatally in a few days.

In these cases the gums become swollen and soft, the teeth all loosen and the entire buccal membrane is inflamed. This condition resembles mercurial stomatitis, but the fever is very high, the respiration simulating pneumonia and prostration is extreme.

My treatment in these cases consisted of pulling all the loose teeth, incising the gums extensively, antiseptic mouth washes, supporting treatment, but the results were disappointing, as all my cases died of general infection in a few days.

Abscess of Tongue. This condition is quite infrequent and I can only recall having seen four or five cases.

They usually occur at the base of the tongue at its central part.

They generally occur beneath the lingual tonsil in the connective tissue.

It is very painful and generally very acute and more apt to cause general septicemia or edema of the glottis than abscess anywhere else around the mouth or throat.

Etiology. Due to traumatism, chemical burns, fishbones or foreign bodies or infection from molar teeth or from oropharyngeal disease.

Symptoms. Severe pain over the back part of the tongue, increased upon movement. Deglutition and mastication painful. Fever and chilly sensations.

If the swelling around it is very great you have added some laryngeal symptoms, such as dyspnoea and hoarseness.

The diagnosis is made from the acuteness of the symptoms, location, pain, difficulty in speech, deglutition and mastication, fever, and most important the finding of a smooth rounded swelling, situated upon the back part of the tongue, and very painful.

Fluctuation can frequently be found.

Differential diagnosis will be discussed under quinsy.

Prognosis. If seen early and early incision the results are very good, but if edema of glottis occurs and a general sepsis the prognosis is very bad.

Peritonsillar Inflammation with Abscess. Quinsy Sore Throat. This, as you all know, is rather a common condition and occurs most frequently during the spring and fall months.

Probably the sudden changes in the weather.

plus a lowering of the resistance which allows the ever present bacteria in the tonsils to multiply, results in infection.

The bacteria found are usually the strepto and staphlococci. Young adults are more prone to it than very young or old people.

I have seen very few cases in children under twelve and rarely in people older than forty, although it can occur at almost any age.

In my experience, the male is more frequently attacked than the female. I have seen it immediately follow an attack of follicular tonsilitis. Most always it is unilateral, but I have seen a few cases where the second tonsil became involved before the first was entirely well. It recurs frequently.

It was generally thought that peri-tonsillar abscess was in some way of rheumatic origin, but I have never seen a case of polyarthritis following, although undoubtedly there are such cases reported.

Another reason I doubt the theory of a rheumatic base is that cardiac valvular disease is rarely seen after peritonsillar abscesses.

My idea of the route of infection is from the tonsil, outward into the peritonsillar tissue, probably from one or more of the tonsillar crypts which penetrate deeply and when the tonsil tissue is very spongy or friable, allowing the infection to pass into the peritonsillar tissue.

In about ninety per cent of cases the infectious route is forward into the top of the anterior pillar and into the soft palate. In the other ten per cent it passes backward into the posterior pillar, producing an entirely different picture than when in the anterior pillar.

Symptoms. Sore throat, increasing from day to day, if following on a follicular tonsillitis instead of the pain or sore throat getting better it becomes worse and unilateral. There is difficulty in swallowing, increased flow of saliva, stiffness of the jaw, inability to open the mouth well, fever and chilly sensations. Temperature sometimes reaching 104°, usually 101° to 102°. Headache, loss of appetite, very painful deglutition, sometimes adenitis on the side affected.

When the swelling becomes pronounced the patient cannot open the mouth. Sleep in reclining position is impossible and food is taken with difficulty, if at all. Loss of weight is rapid. Respiration difficult. Peculiar pitch to the voice, which when heard a few times, enables one to make a diagnosis often without an examination.

The suffering is intense for four or five days, until the abscess is opened or it breaks spontaneously.

Diagnosis: With the above symptoms and especially if the patient has had a preceding attack, plus the examination by inspection and palpation the diagnosis is generally easy. The picture of the throat is characteristic.

Unilateral swelling of the anterior pillar and palate almost hiding the tonsil. Tonsil is swollen, but one can see that the swelling is principally in the peritonsillar tissue.

In some cases the uvula becomes edematous (bladder like) and is elongated and is the principal cause for the short cough and the inability of the patient to lie down. The whole oropharynx is of a deep red color while the uvula is generally of a paler color or if edematous, opalescent, due to the infiltration of serum.

On palpation one can usually feel a fluctuation after the third to fifth day (sometimes it is a little longer), in the region of the junction of the anterior pillar with that of the soft palate.

Now to distinguish abscess in the anterior pillar from that of the posterior pillar is not so easy. In both you have the peri-tonsillar swelling, only in anterior pillar abscess the bulging and swelling is around the soft palate and top of anterior pillar, while the posterior pillar abscess is a fusiform swelling and the tonsil is not so prominent, while the anterior pillar, while swollen and red, is not so painful nor nearly so infiltrated.

Also in my experience the patient can open his mouth wider than in anterior pillar abscess and the general symptoms are not so pronounced except pain.

Differential Diagnosis.—The most usual conditions to be founded with quinsy are follicular tonsillitis upon a hypertrophy of the tonsils, retropharyngeal and lingual abscess, sarcoma and tubercular glands.

Here the fact that follicular disease occurs more often and in younger patients coupled with the exudate in the follicles or crypts, enables one to differentiate.

Should the pain and fever in an older patient, with follicular tonsillitis continue one should always suspect a beginning peritonsillar abscess.

Tongue abscess is very uncommon as compared with quinsy.

The patient probably cannot protrude his tongue as well as in quinsy.

Tongue abscess is situated over the center of the back part of tongue and feels like a rounded mass, tender to touch, while quinsy is situated in the pillars and the tonsil is much more swollen than in tongue abscess. The probability of the patient having had an attack of quinsy before is a good point in differential diagnosis.

Differential diagnosis from quinsy of the posterior pillar I have already mentioned.

One great difficulty is the diagnosis between posterior pillar abscess and retropharyngeal abscess.

This is generally easy in young children, as retropharyngeal abscess generally occurs under five years of age, while quinsy is most generally always found in older children and young adults.

Then the location of the retropharyngeal swelling and the posterior pillar appears normal as to thickness.

Again in retropharyngeal abscess the child has its mouth open while in pillar or peritonsillar abscess it is with difficulty that the mouth is opened.

The palpating finger can generally make out the swelling of a peritonsillar abscess and finding the posterior lateral pharyngeal wall smooth and with no bulging.

Sometimes peritonsillar abscess instead of rupturing spontaneously is much slower in its development and produces a severe lymphatic engorgement below the angle of the jaw, causing a distinct tumor mass.

This swelling is painful, but not nearly so painful as when the pillars themselves are involved and to my mind is due to a leak of pus from the tonsil bed itself perforating the capsule and getting out into the lymph glands and tissues of neck.

I saw about six cases of this kind and in all it was weeks before fluctuation occurred.

These cases are sometimes very difficult to diagnose from adenitis, tuberculous glands or sarcoma of tonsil or lymphangitis from a bad molar tooth or some condition of parotid gland.

In tuberculous glands they feel nodular and hard to touch and are of longer duration and there is generally a history of struma and tonsils are not swollen at that time.

In sarcoma the tonsil is very hard, is hypertrophied, no pain, no fever and the lymphatic glands of the neck are matted together and very hard.

Adenitis from bad teeth is not difficult to diagnose. The fact of patient having a bad tooth or teeth in region of lower jaw with an increased tenderness when the teeth ache, plus the fact that the tonsil is not acutely inflamed should be sufficient.

Acute parotitis is sometimes difficult to differentiate.

Have seen mumps simulate peritonsillar abscess, but here while the tonsil tissues are inflamed they are not infiltrated.

The general symptoms are not so severe and the fact that the patient has had mumps would be of great diagnostic value.

Acute parotitis from general disease is not difficult to differentiate from peritonsillar abscess, but that from a bad tooth either erupted or unerupted or impacted might offer some difficulty.

Usually in these cases the x-ray would be of value besides the fact that inspection should show a quiescent tonsil and milder constitutional symptoms.

Prognosis as to life is very good. Very few patients die and those that do are from complications similar to the complications in tongue abscess. Among them are general infection, asphyxia, erosin of artery, septic thrombosis, edema of glottis, empyema of the sinuses, abscess of the lung and pneumonia.

Treatment. The treatment is divided into two parts—during the attack and operative treatment.

General treatment: Coal tar products in the beginning for relief of pain and fever; morphin or opiates in some form, for severe pain.

Gargles: Cold at first, ice bag at the onset—later if not relieved change to hot, to hasten the process.

Bicarbonate of soda gargles are excellent. Also hot milk with bicarbonate of soda.

Surgical: Open abscess when fluctuation is established. The usual site for puncturing anterior pillar abscess, near the junction of the uvula. In other words, where the expanded portion of the anterior pillar is located, or about one-quarter inch from the uvula. The incision should be made straight and deep, otherwise it will not puncture the abscess. Sometimes it is necessary to puncture lower down, depending upon the site of

the abscess. In posterior pillar abscess it is best to make a perpendicular incision one-quarter inch long and start as low as possible, as there is no danger of cutting a vessel, but make a straight incision.

These abscesses are much smaller than those of the anterior pillar and one should not expect a great quantity of pus.

It is necessary to inspect it daily to see that the incision does not close too early.

Prophylactic treatment: Complete enucleation of tonsil. This should never be undertaken until the patient is thoroughly well and rarely under six weeks after an attack of quinsy.

Retropharyngeal Abscess. This disease, although uncommon, occurs frequently enough and if not recognized it often terminates fatally so that the practitioner should be able to recognize it and administer the proper treatment.

It is nothing more than an ordinary abscess which occurs from an infection of the lymph nodes in the posterior lateral wall of the pharynx ending in suppuration.

It is usually due to the staphylococcus but sometimes is tubercular. There is a difference between the acute form due to the staphylococcus and the one due to the tubercle bacillus, of which I will speak when we discuss the diagnosis.

The disease is usually found in infants and young children. The most common age is between one and five years.

Catarrhal conditions of the naso-pharynx are frequently the starting point. The cold seasons are more prone to produce the disease, as the catarrhal conditions are more common at that time.

Exceptionally the disease follows the acute infectious diseases such as scarlet fever, measles and la grippe.

As stated, the disease starts in the retropharyngeal lymphatic glands and the abscess develops either on the one side or the other, as the glands are situated on each side and not in the middle.

In the tubercular cases due to caries the abscess is more apt to be centrally situated and is always of slower development and is secondary most frequently to tubercular caries of the cervical vertebrae.

Symptoms. The first suggestive symptom is a fever of unknown cause; after a time there is difficulty in swallowing which later becomes so painful the child refuses food.

Occasionally the swelling is so pronounced that fluid is regurgitated through the nose. (This should not be mistaken for post-diphtheretic paralysis.)

Associated with this is difficulty in respiration. The breathing often becomes dyspnoeic, with a kind of gurgling due to the accumulation of mucus in the deep pharynx.

There is an anxious expression and a peculiar metallic cry, something similar to the cephalic cry. The head is usually thrown backward and to one side. The mouth is open and the child often has a nasal voice and a laryngeal cough, especially in those cases where the abscess burrows downward towards the larynx.

Sometimes the constitutional symptoms are inconsiderable but debility and more or less fever are the rule.

In the severe cases the fever is usually very high for several days and prostration severe.

Course and Prognosis.—The course in the acute cases is rapid and in a few days to a week a threatening one.

An early diagnosis and proper treatment generally results in recovery.

The mortality is about five per cent. When the disease causes death it is usually from such complications as sudden bursting of the abscess causing asphyxia or edema of the glottis or septic pneumonia, abscess of mediastinum or occasionally from eroding of an artery, such as the ascending pharyngeal. Occasionally, in fortunate cases the pus burrows outward toward the neck and can be opened externally, but one should never wait in such cases, as there is more danger of the pus burrowing downward along the deep fascia and passing into the mediastinum which almost always ends fatally.

Diagnosis. This is often very difficult; first, because the disease is uncommon, and secondly because the condition is often mistaken for some other disease, such as diphtheria, tonsillitis, laryngeal stenosis, edema of glottis or pneumonia. In those cases where there is cough, many are diagnosed as croup.

I have seen one case in which two physicians made a diagnosis of membranous croup and in

another of quinsy. The latter condition is most frequently diagnosed, as the tonsillar tissues naturally are somewhat swollen.

In my own cases I was surprised to find so little inflammation or redness along the posterior wall. In fact, one will frequently go astray if he relies on the color of the posterior wall for a diagnosis.

Besides the fever there is difficult respiration, nasal cry, stiff neck, head to one side, prostration and in some cases a brassy cough. The most important part is a thorough examination by inspection and particularly by palpation.

The finger encounters a rounded or fusiform swelling at the posterior lateral wall of the pharynx and if a probe is used the usual discoloration upon pressure.

If one uses a good light (prying the mouth open with a mouth gag) he almost always can find the swelling. The bulging of the lateral and back wall of the pharynx will appear closer to the palate and uvula. This latter structure is not edematous as you frequently find in peritonsillar abscess.

Should the abscess burrow outward it is possible to make an error and think it is due to mumps or due to an adenitis from tonsil or carious teeth or possibly from the submaxillary gland infection, but a careful examination by inspection and palpation plus the symptoms generally enables one to make a correct diagnosis.

Treatment.—The treatment is to evacuate the abscess early.

The child should never be given any anesthetic and should be held firmly and the incision made longitudinally and not too far to the outer or lateral wall, as there is danger of wounding the ascending pharyngeal artery.

The head should be immediately turned forward and the child's body higher than the head, so the pus will not get into the lungs.

A forceps should be inserted after the first evacuation to spread the parts as you would do in any abscess.

No packing or swabbing is necessary, but the wound must be kept open for a few days to prevent refilling.

The relief of the dyspnea and other symptoms are almost immediate and the child most always makes a rapid recovery.

Metropolitan Bldg.

RADIO-FREQUENCY ELECTRICITY IN SURGERY*

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CHICAGO

It is not the object of this paper to disarm the medical profession of its time honored weapon against pathological tissue. The knife and scissors are the oldest weapons of surgical dissection of pathological tissue. They are and always will be indispensable.

Very early in the art of surgical intervention the hot iron or cautery was used for the separation of tissue and has continued in surgical practice down to the present time. Many surgeons would like to use the cautery in the removal of diseased tissue because of its protective sealing, sterilizing effect, etc. We all feel safer after having removed a beginning cancer by cautery dissection.

The actual cautery has many disadvantages in the operating room, such as slow separation of the tissues, sloughing and delayed healing of wounds.

It is to overcome these objections that your attention is called to a method of dissecting tissues by radio frequency electricity.

Fig. I

The skin incision is being made for removal of a malignant gland of the groin. Regional anesthesia.

Radio-frequency currents were first used about a year ago in Germany as a fulgurating current for the removal of warts, moles, and epitheliomas. It was first used in Chicago as a surgical dissector early in 1924. The apparatus required con-

*Read before the Chicago Medical Society, December 3, 1924.

Fig. II

Completing the dissection of a malignant gland of the groin.

sists of a minature broadcasting station, made up of a series of transformers and two 50-watt transmitting tubes. This device generates a radio-frequency current of very high oscillation rate, about 3,000,000 a second and very low amperage and voltage, so as to eliminate burning of the tissue. If the ground wire be attached to the patient, and the antennae wire to the knife, the device is ready for use.

The knife or electrode very much resembles an eversharp pencil, having an insulated handle and a small metallic tip so that the electric current is concentrated to a single point. If this point be slowly drawn over the tissues, a rapid separation occurs very much as if the tissue were cut with a knife. Preceding the separation of tissue a wall of dehydration is developed by the radio-frequency arc so that the lymphatic spaces and small vessels are effectively sealed before the separation takes place.

Under the microscope the tissues give the appearance of having been partially dried in the sun's rays. The tissue seems denser and the cells appear shrunken and more closely crowded together. The small blood vessels in the immediate vicinity are not especially congested and no thrombi are observed. We have then, in effect, the protective sealing of the actual cautery but due to the lack of vascular changes and carbonization there is no interference with primary healing unless the electrode is held for a considerable time at one point. Cancer cells are shriveled up beyond recognition in the immediate zone of travel of the knife.

The rapid separation of tissue resembling a dissection made by a knife, and the ease of control since no mechanical pressure is required, only a guiding of the electrical current to the spot desired, make for an easier removal of many inaccessible malignant tumors, such as those encountered in carcinoma of the throat, stomach, and prostate.

For over a year, we have been using an experimental model of our own make, and have performed over one hundred operations in different parts of the body with a primary union in all but five cases. Clinically, the healing seemed to take place in about the same time as when ordinary surgical dissection was used, although the skin incision as well as the cutting of the other tissues was performed with the radio-knife. The failure of primary union in the five cases mentioned was due to drainage for abscess.

The classification of cases is as follows:

1.	Malignant glands of the neck	3
2.	Goiter	7
3.	Thyroglossal fistula (malignant)	1
4.	Carcinoma of breast	10
5.	Non-malignant tumor of breast	4
6.	Gastro-enterostomy for ulcer	7
7.	Gastro-enterostomy for malignancy	4
8.	Resection of ileum	2
9.	Resection of colon	1
10.	Cholecystectomy	32
11.	Appendectomy	34
12.	Pyosalpinx	3
13.	Hemorrhoidectomy	12
14.	Ischiorectal fistula	4
15.	Carcinoma of prostate	3
16.	Prostatectomy, non-malignant	5

Inasmuch, as there is intense heat at the

Fig. III

Skin incision for removal of sarcoma of the testicle. Note dry field.

point of the electrode it must not be used in the presence of inflammable gases or liquids, such as ethylene gas or while the skin is saturated with ether or alcohol.

Caution must be given against holding the electrode too long in one spot, especially when incising the skin, as carbonization of the skin may result and a failure of primary union. On the other hand, if the electrode is drawn too rapidly across the skin the electric current will not make sufficient contact to produce a cutting effect.

SUMMARY

1. The radio-knife is not considered to be a substitute for the ordinary knife or scissors.

2. The cutting effect resembles that of an ordinary knife and is much faster than any form of cautery dissection.

3. The shriveling or dehydration effect on the tissues before separation occurs is a great protection against the spread of infection, and the metastases of malignant cells. We believe that it should be used in all cases where this protective sealing of the tissues will increase the chances of a successful operation.

25 E. Washington St.

DISCUSSION

Dr. Edward H. Hatton presented slides of histological specimens of tissue that were removed with the radio-frequency knife in order to demonstrate for

Fig. IV

Completion of dissection for removal of sarcoma of testicle. No vessel was ligated. Sutures for closing only were used.

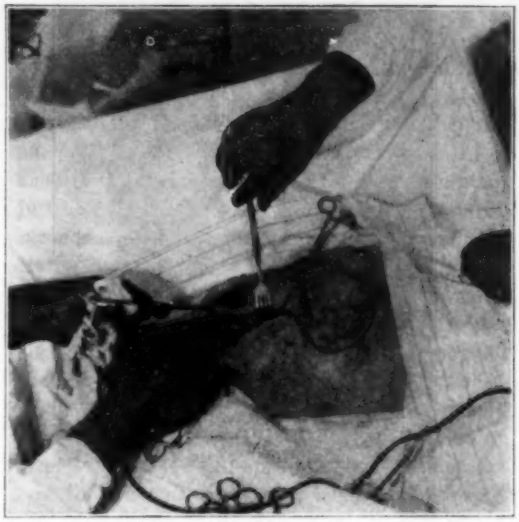

Fig. V

Skin incision and first-stage of axillary dissection for radical breast amputation in carcinoma.

Dr. Lowry the extent of the changes that take place in the tissues and the width of the condensation and coagulation that occurs beyond the edge of the wound made by the electric needle.

Dr. Carl Beck said the demonstration was very interesting. He did not think he would learn to operate the radio-knife for two reasons, first, the scalpel is so easily handled and is always ready and one is not hampered by the wire attachment; second, because of the pathological changes shown in the specimens presented by Dr. Hatton. Presumably similar changes occurred on the other side. He asked Dr. Lowry if he had noticed any cases of secondary hemorrhage following the use of the knife. He had used the Finsen needle in a number of cases, but discontinued its use because of the secondary hemorrhage which followed.

Dr. A. J. Ochsner said that he had always been a believer in the efficacy of the red hot iron in the surgical treatment of malignant growths. In his opinion the radio-knife was a very convenient way of making a dissection of malignant growths without any possibility of carrying the infection into the lymph spaces. He has used the apparatus in a very large number of cases. His results have been very satisfactory. He has not used it in normal tissues except in one case of goiter.

Dr. T. Howard Plank stated that the radio-knife was first used in Chicago in 1922. Following the meeting of the American Medical Association in St. Louis he employed the knife in his work, but his results were not so satisfactory as those reported by Dr. Lowry. He has gone back to the use of the Percy cautery, but eventually he thinks something is going to come out of this knife.

Dr. Nelson H. Lowry, in closing, said that he had

Fig. VI

The dissected margin of prostate gland tissue. Measured distance 1.0 m. m. The dehydrated or sealed area is indicated by small arrows. Depth ¼ m. m.

not encountered any secondary hemorrhage following the use of the knife. The reason, he believed, is that only the lymph spaces and small vessels are sealed; the large vessels are always picked up and ligated. With the actual cautery where all the vessels are sealed the inflammatory reaction occurs very quickly and secondary hemorrhage is the rule.

He thanked Dr. Plank for calling his attention to the fact that he had used the radio-knife.

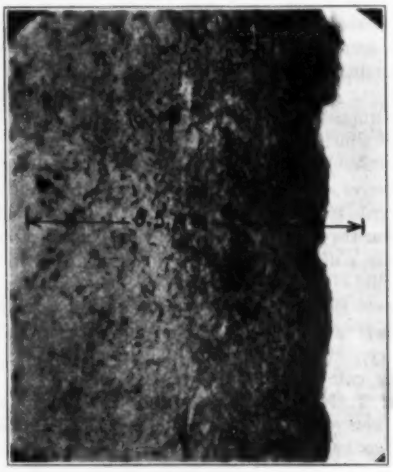

Fig. VII

High power view of liver tissue. Measured distance 0.5 m. m. Depth of dehydrated portion ¼ m. m. Note normal appearance of tissue beyond sealed area.

MUCOCELE OF THE APPENDIX, WITH REPORT OF A CASE*

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Rare conditions are found at times in abdominal surgery in which a definite preoperative diagnosis is difficult or impossible. Mucocele of the appendix is one of these and is reported because of the scientific interest of such rare conditions.

Cystic dilatation of the appendix is a rare condition. Dodge in 1916 reported 142 cases in the literature, and Davison in 1922 was able to add 18 more. The total number in the literature, according to Crouse, is from 85 to 256. Only three cases of fish egg mucocele have been reported according to W. R. Morrison. Most of these cases have been taken from post mortem statistics and the largest proportion of those discovered as laparotomy were not diagnosed previously.

The etiology is unknown, but in acquired mucocele certain factors are probably concerned, such as a low grade inflammatory process producing a gradual stenosis, a sterile lumen distal to the stenosis, and an actively secreting mucosa, together with some unknown property of transforming normal mucus into colloidal pseudomucin (Elbe). They may also be congenital or develop in a diverticulum.

The pathology is varied. The cysts vary in size, some being as large as a man's head. The shape depends upon the position of the stenosis, the amount of fluid, etc. The character of the contents varies much, serous, turbid, blood tinged, mucoid, muco-purulent, gelatinous,-pseudomyxomatous, are terms used to describe the findings. Extremely rare is the fish egg type in which there are balls of inspissated mucoid material floating in the fluid contents. Microscopically, the serosa is usually unchanged. The muscularis may be thinned, normal, or thickened from hypertrophy or chronic inflammation. The glands may be partially occluded and form secondary cysts. The mucosa may become ulcerated and connective tissue replace it in areas. Should a cyst rupture, a condition known as pseudo-myxoma peritonei may result in a similar way as from a ruptured ovarian cyst, the chance for malignancy, however, being greater in the latter. There have been no cases in the litera-

*Read before Rock Island County Medical Society, October, 1924.

ture where mucoceles have been associated at the same time with scirrhous or adenocarcinoma.

The symptoms are usually vague and of little value in diagnosis. The most common are those of a chronic appendicitis, unless the cyst ruptures. At times a mass in the right lower quadrant, which may be associated with constipation, is the only complaint.

The differential diagnosis includes a consideration of ovarian cyst, uterine fibroid, hydro or pyo-salpinx, malignancy of the intestine, cysts of the mesentery, traumatic hematoma, retroperitoneal cyst, intussusception, hydronephrosis, renal cyst, uretteral calculus, perinephritic abscess, floating or tuberculous kidney, tense distended cecum, and diverticulitis of the cecum.

The prognosis is good if entirely removed surgically before rupture. It is possible that carcinoma may develop in long standing cases from irritation of the cyst lining. Infection of the cyst contents is followed by empyema. Rupture of the cyst is followed by pseudo-myxoma peritonei, therefore clean surgical removal is most desirable.

The following case seen by the writer is a typical example:

R. C., male, aged 67, was first seen March 20, 1924. There was nothing unusual in his previous history, the patient stating he had never been ill and had had no abdominal complaints previous to the onset of the present trouble which began in November, 1923. At that time he began having slight discomfort in the right side of his abdomen, gradually increasing to the present time, but which had never been severe. Constipation progressively increased necessitating the use of cathartic for the first time in his life; when seen he was using them daily. There had been a loss of weight of 15 pounds in the last three months and he complained of weakness.

The physical findings with the exception of the abdomen were essentially negative. Palpation revealed a movable, firm, slightly tender mass in the right lower quadrant, extending downward from McBurney's point. There was no rigidity, distension, marked tenderness, or other abnormal findings.

X-ray, including motor meal and barium enema, on palpation under the fluoroscope, showed the mass apparently to be attached to the cecum. There was no filling defects in the cecum and no obstruction could be discovered in the cecum, ileo-cecal valve, or colon.

Blood examination showed a moderate secondary anemia. The urine showed no abnormal findings except indican.

The age of the patient, the presence of a mass in the right lower quadrant, the progressively increasing constipation, the loss in weight, the anemia, together with the x-ray evidence of a mass in the region of and attached to the cecum, justified in the writer's mind the diagnosis of carcinoma of the cecum, probably operable. Operation was advised and accepted.

On operation, April 3, 1924, incision revealed a large mass attached to the cecum, freely movable with no adhesions, and easily deliverable. A smal remnant of meso-appendix was attached to the medial border. The mass being the same diameter as the cecum, with no definite line of demarcation between appendix and cecum, except that the mass was gray white in color and the cecum normal, clamps were placed across the cecum and the mass removed. The patient made an uneventful recovery, leaving the hospital on the twelfth day and is in good health at this date, October, 1924.

The specimen was sausage shaped, shining grayish white in color, that portion composed of cecum being reddish and slightly injected. The length was 16 cm., the diameter almost uniformly 5 cm., the tip measuring 2 cm. On opening the appendix, the contents were under pressure, protruding from the incision, and of a thick mucoid nature. On evacuation of the contents the size shrunk to about one-half the previous. Many small round particles of a grayish substance were seen floating in the contents and clumps attached to the walls. The walls of the cecum about the origin of the appendix were thickened. The lumen of the appendix is absent at the cecal end. The walls of the appendix were almost uniformily 2 mm. thick. The mucosa at several areas was roughened, clumps of small grayish particles being adherent. On microscopic section, all elements of the wall could be identified. The roughened places in the mucosa were ulcerated areas. The small particles were necrotic cell masses, many about fecal concretions. The diagnosis of mucocele of the appendix, fish egg type, was made.

CONCLUSIONS

Mucocele of the appendix is a rare abdominal condition, usually diagnosed at laparotomy or necropsy.

It may rupture, producing a condition known as pseudo-myxoma peritonei.

There is little tendency toward malignant change.

The prognosis, after clean surgical removal, is excellent.

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HEALTH IN INDUSTRY

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Interpretations of health conditions, and the causes that induce disease have surely been revolutionized in the past thirty years. I still remember going home from college, when I was eighteen or nineteen, to find in every room in the house a plate of sliced onions. My town was like all other towns of similar size, of about twelve hundred inhabitants, and the grade of intelligence was surely normal. When Mr. Harding was elected president of the United States, our Main Street found a place on the map. For Mr. Harding was born in our town, and even admitted it. On the day of his inauguration everybody went to Washington, everybody called him Warren, and all threw egg-shells out of their lunch boxes on the White House lawn, just to show him that we still considered him one of us. Any town that could produce Mr. Harding, and Tenny Claflin and Victoria Woodhull, and many lesser lights couldn't be absolutely a hick-town. Still, we had sliced onions placed all over our house. Even after two years of college training this procedure didn't seem at all unusual to me, for hadn't I worn about my neck, every winter of my life, until I went to college, a little bag in which was sewed some asafoetida, to ward off disease of many sorts? I remember yet, as the custom was general, when the wood fires in the church would get too hot on Sundays, the general atmosphere was hardly that of the odor of sanctity but rather that of over-ripe Rochefort cheese, the result of many bags of asafoetida, worn by the worshippers. I did inquire why the onions, however. It happened that we were having a terrific epidemic of typhoid that fall, which proved most disastrous to the town, and very much so to my own family. The onions were placed about the house to absorb the poison, and the blacker they got, the more over time they were thought to be working. It never occurred to me then, or to any of us, that all vegetables turn dark when pared, and exposed to the air.

If people got sick they were cared for most lovingly. If they died, they were buried and mourned, but it was many years before the local board of health began investigating wells and drainage, and the possible relationship of such things to typhoid and other intestinal diseases. In spite of all the fresh air they get, and in spite of all of the advantages of country life, the health of country bred people averages lower than that of the city bred. Many factors enter into this estimation. The average city individual is better bathed, eats more regularly of less hearty food, and has more hours of relaxation. More than this, the hygienic soul of the city bred man is not his own. The Health Board regulates his conduct in a large measure, and the path of health regulations that he must walk is fairly narrow. Thus in our large cities we have little typhoid, decreasing intestinal diseases of all sorts, and if disease does come, better facilities for controlling quarantine. If all of this is true, I wonder if the economic tragedy of, for instance, typhoid ever occurred to you. Given a patient of the wage-earning white collar class; the chances are that he must go to a hospital. He must have a day and a night nurse. He must have a private room. His food must be prepared away from the diet kitchen. All of his utensils must be kept apart from those in general use. His linen must have special care. All of this costs enormously. The actual hospital expense of a recent typhoid case, over a period of ten weeks, was an average of $150.00 a week. The income of the patient was twenty-five dollars a week.

If one is a wage earner in a great city, away from home, and dependent upon himself, he must go to the County Hospital. There is no better care any place than one can get at the County, but many dread the idea of it, a charitable institution, with its lack of privacy and its institutional atmosphere.

All of this may seem a lengthy introduction to a paper on "Health in Industry," but what

*Read at annual meeting of Illinois State Medical Society, at Springfield, May 7, 1924.

is true of a town of average size, when it comes to problems of health and hygiene, is true of a community of workers, where from six to nine thousand workers are grouped together, for eight hours of the day. Our responsibility is somewhat graver, for during those eight hours they are with us, we carry the responsibility of seeing that their health conditions are correct. We have one advantage, in a large firm, that our men and women are picked workers. All have been examined, and when they begin work with us, they are in fit condition to undertake their duties. But many things may happen in a year, in the life of anyone. So in a crowd of six thousand souls, one is apt to meet almost every ill that any human being can have, to say nothing of many that no human being ever could have, except in his imagination.

Many, in giving superficial attention to the medical department of a large industry, are apt to misinterpret it. I have heard much criticism of Industrial physicians; I have never heard any of railway surgeons, and never any of health commissioners of cities. One sometimes resents the activities of the individual in health departments, but never of the idea of health supervision. The Health Commissioner of the city of Chicago, or of New York, is almost a czar, and yet he must be so, if he is held responsible for the lives of several millions. In a smaller way, we become responsible for our workers.

I am going to make this brief paper just a resume of what we are doing, and make no effort to be technical. I am hoping that you will care to know just what we do to keep all of our many hundreds at work. For with us, every man and woman away from work slows that day's work. We *must* keep them well, and *must* keep them at work. That is the great object of our medical department.

This past winter we had a mild epidemic of typhoid—mild as to the number of cases, but very severe as to the character of the infection. We could hardly expect to have our people escape absolutely, as all were subjected to the same conditions of water and milk supply. We finally had one case. It was most peculiar in its inception, as it started with a terrific nosebleed. This occurred over a period of two weeks, while the case was ambulatory. In the second week however, the temperature shot up, and the patient became ill enough to seek medical care. It is not necessary to go into the history of the case, as far as the typhoid is concerned. Our first thought was of our cafe. Each day we feed from three to four thousand. So our water had to be examined, and our milk source investigated. The patient came from the North Shore, where most of the series of cases had developed. The health department pronounced our filtered water of unusual excellence, and the milk supply beyond criticism. We thus felt that we had protected the rest of the employes. But the most comforting thing to me was the opportunity it gave to have every cracked dish in the cafe broken. I myself have never liked to drink from a cracked cup, and have never liked to eat from a cracked plate. By impressing upon our steward that such dishes never could be kept clean, and that their cracks might harbor disease, I induced him to break all that were not whole. You will be surprised that it averaged over two hundred plates and cups a day.

While I had him in a receptive mood, we also discarded all torn napkins, and all silver from which the plating was worn. While these things may have little relationship to typhoid, they surely do have to appetite. We feed our employes at what is practically cost, to make it possible for them to have a hot luncheon at little more expense than a cold one, brought from home, would be.

If one attempted to mention all the factors that conduce to health in a large plant, a paper like this would take about four weeks to read. There are so many things that enter into plant hygiene—lighting, ventilation, freedom from drafts, air space, and all of the safe-guards against accidents. Our aim is to have no illness, and that is the end towards which we work.

Shortly after I took charge of our medical department, twelve years ago, I was impressed by the faith that most of the wage-earners had in drugs as cures for everything. That was one of the first things we had to teach them; that if they were out of sorts, there was a reason for it, and that simply taking a drug got neither of us anywhere. It was up-hill work. Many insisted upon medicine for everything, and the worse it tasted, the better it seemed to them to be suited to their needs. After these years, we have about eliminated medicines, except those that are common to most individuals, such as occasional cathartics, etc.

One of the first things that impressed me was the number of faints among our girls. We had a rest room in which there were thirteen beds. These were always occupied. Now a girl in a faint is getting out little work. I don't know how much of girl psychology you know, but if one girl in a department faints, work in that department is done for that half day. Those immediately about her will go into hysterics, and all the rest will swallow their chewing gum. If there is an occasional fainting spell among many hundred girls, that would not be especially significant. But if many girls faint each day, there must be a reason for it. It was up to us to find the reason. Fortunately we were able to trace the cause with almost mathematical precision. By making a chart, much like a temperature chart in illness, showing the output of work in one large department, where some six hundred girls were employed, we saw that the work was up-grade for the first few hours of the day, when it reached its peak. Then it receded until the noon hour. After luncheon there was again a rise, although it never reached the peak of about ten-thirty in the morning. After three in the afternoon the output began to fall, and fell rapidly until closing time. It seemed there must be some reason for this lapse, and it was necessary for us to find the reason, to see if it was a correctible one.

Working upon the theory that the slump might be from insufficient feeding we evolved a remedy. Many of our men and women come many miles to work. They must be at their desks by eight. Street-cars are uncertain, and allowance must be made for delays. There resulted the necessity of leaving their homes or boarding houses very early, in many instances. Now one to appear in public must not only arise from bed. She must wash, and comb her hair, must powder her nose a little, dab a little rouge on her cheeks, and pencil a little red upon her lips. These are serious matters to girls of eighteen years, and take time, and a certain artistic quality. Meantime the hands of the clock are conscienceless. So usually breakfast consists of a piece of toast, or of bread, a cup of coffee hastily drunk; with no attention to bowel functions; and a rush to the street car. There are people who can work all forenoon on empty stomachs, but we have never found them among our employes. What wonder, in the mad rush to get out work that the under-fed body rebels? Acting on the theory of insufficient food, we decided upon the experiment of feeding our girls, and of watching results. Out of a room in which were employed six hundred girls, we selected, at random, twenty. We put them on a feeding, at ten-thirty in the morning, at three in the afternoon, of a twelve ounce glass of malted milk of double strength. In the six weeks' period of the experiment, the least gained was ten pounds, and the most twenty-eight pounds. We had proved our point. So we instituted the practice of giving all of our girls and men who seemed to need it, a mid-period glass of malted milk, keeping track of the weights, each month. Our faints stopped as if a miracle had been performed. That was not the only miracle. Malted milk purveyors began to treat me with the greatest consideration; some even recognized me on the street. Our little purchase of our hundred pounds a month not only brought our employes health, but brought me most profuse attention from rival milk firms. We kept up this custom for several years. Meantime, abundant labor supply was permitted us to weed out the weak ones, and at the present time we have little need for this sort of food stimulation. But the experiment did allow us to get away from tonics and drugs, for tired nerves.

For several years we had a Dental Department, of four chairs. During these years, we put into condition the mouths of all of our employes needing care, for it is now generally considered that the teeth have a large part in preserving health. At this time, we do not take on anyone whose teeth are bad. After several experiences with rheumatism and the attendant endocarditis, we felt that we were imposing no hardship in requiring sound teeth. This reminds me of a laughable experience I had with a Russian workman. I complimented him upon his beautiful white teeth, and told him how well they showed his good care in brushing them. He replied that he had never brushed his teeth in his life, and had never had a bath. Strange as it may seem, he was of powerful build, muscled like a prize-fighter, and his clear white skin had no odor. To be frank, I hate water myself, and would never take a bath, except for the good of the community. I wonder how he puts it over. In spite of his upsetting of traditions, we still

advise the free use of the tooth brush. Also, we require clean throats. We take on no one who has infected tonsils. It is amazing how many have picked up in health when they have lost their focal infections.

I wish I could go into details as to our recreations. I heard a customer say one day that she did not see how they ever got anything done in our plant, as all the girls seemed to be singing and dancing all the time. We go to great lengths to make our employes happy. If one has to work, it does make it easier to have the surroundings agreeable, the supervisors courteous, the library and music rooms accessible, and the cafes clean and the food appetizing. All of these things are factors in increasing the output of work.

DR. A. M. HARVEY, Chicago: I was glad to hear Dr. Wieland's very able paper, especially as it was read to an audience composed of so many down state men, because Dr. Wieland has been doing exceptionally good work in Montgomery Ward's plant. I happen to be doing the same class of work for another plant in the city; have done so for something like thirty years. Practitioners of medicine in general do not realize what industry is doing for its employees. The Doctor brought out what his company is doing for themselves in this work, but he did not emphasize sufficiently what the work means for the individual.

I recall one day a young lady came into my office to go to work and I wondered how she happened to come to our establishment. She had been in Chicago only a few days working at a small concern. Her sister talked the matter over with her and recommended that she go to work for Crane Company because they had physical examinations and she would have the benefit of an examination and would not have to work with people who might have an infectious or contagious disease. This illustrates what some workers think of industrial medicine. As a rule those who think are not antagonistic, but they and their families recognize the benefits. I believe that City and State Boards of Health also appreciate industrial medical departments because they supplement and function with these boards.

I should like to have the Doctor tell us about his percentage of rejections last year. My rejections ran about seven per cent. They were not all rejections because individuals are sometimes held over on account of a remedial defect. For example, should an individual need a tonsillectomy or a herniotomy, we hold him over for a certain length of time and if he has the defect corrected he may come back and is placed at work. Some do not return and, of course, technically it is a rejection. Others physically unsuited for certain kinds of work are passed for work for which they are physically suited but not liking such jobs decline them. Technically it is a rejection.

We have a plan which probably Dr. Wieland follows that works very nicely and takes the place of periodic examination. Making periodic examinations where eight to ten thousand people are working is a real job, but we have a rule that an employee when sick shall clear or return through the Medical Department and in addition any employee who may so desire may consult the Medical Department and in that way we do examine a great many employees and frequently some several times during the year. Along with the Doctor's idea of the use of malted milk you may be interested in knowing that some years ago in discussing the question of beer drinking in the National Safety Council it was suggested that it would be a good idea to recommend milk, so we took the matter up many years ago and allowed approved milk men to go through our plant. The workers took very kindly to the idea and now we dispose of thousands of bottles of milk which is drunk usually during the forenoon or at lunch hour and this plan was followed long before the Volstead law went into effect. Beer was never allowed in the plant, but some men, of course, would drink the same during the noon hour in nearby saloons. Milk makes an excellent substitute.

Industrial medicine is a fascinating work. I think it is a work that does real good and certainly managements appreciate the good of it or they would not spend the money for it; as the Doctor has intimated, it costs a great deal to conduct a full time Medical Department in a large industrial establishment.

DR. FRANK WIELAND, Chicago (closing the discussion): As to the rejections, Doctor, our percentage goes a little higher than that because among women we have more rejections. Seven per cent of the men are rejected for hernia. Take an hour man; the hour men do not come through the Medical Department; one will go on the work at nine o'clock; at ten o'clock he will have a hernia, have to be operated on and we have to pay him until he dies of old age.

We had to vaccinate six thousand people. The Health Department gave us one month to do it in. We also require that everyone who has been sick must return to work through the doctor's office.

A PLEA FOR THE CLOSED METHOD OF TREATING EMPYEMA IN CHILDREN*

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In spite of the results of much exhaustive laboratory and clinical research on the problems of empyema, in spite of the tremendous literature advocating the air tight drainage, the time-honored method of rib resection and open drainage is still very widely used. As the season is now

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approaching in which the incidence of empyema reaches its peak, I wish to make another plea for the so-called closed method of treatment.

By the closed method I mean a method which allows no air to enter the pleural cavity. The method that I use, which is essentially the same as the methods described by Diedrich, Mazingo, and numberous others, is, in brief, as follows: Local anesthesia; piercing through the intercostal space with a trocar; inserting into the empyema cavity through the trocar sheath a small drainage tube (soft rubber catheter F 12 or slightly larger); withdrawal of the trocar sheath; drainage of the pus either by repeated aspirations through the tube or by continuous suction; regularly repeated instillations of Dakin's solution until the cavity is sterile and practically obliterated; withdrawal of the drainage tube, the whole procedure being carried out in such a manner that no air is permitted to gain access to the pleural cavity either through the tube or the wound.

The advantages of the closed method of treatment of acute empyema, especially in children, are the following:

The procedure necessary to insert the tube is much simpler than that required for rib resection. It produces no more shock than the ordinary exploratory pleural aspiration. For this reason it can be carried out in the very sickest cases. Neither an operating room nor elaborate equipment is necessary. It has been my custom to perform the operation in the dressing room or even in the patient's bedroom without removing the child from its bed.

Local anesthesia is always sufficient. The entire operation can be made absolutely painless. It takes but a few moments to insert the tube, so that even the most nervous and apprehensive of youngsters can stand the procedure. The fact that no inhalation anesthetic is required is a very great point in favor of the closed method, especially in such cases in which the lungs are still actively involved.

In the closed method no pneumothorax is produced. That means that there is no sudden change in the intrathoracic pressure relationships. The lung on the affected side is not suddenly collapsed, nor is the mediastinum suddenly allowed to bulge with the resultant change in the so-called unaffected lung. A certain amount of collapse of the lungs has taken place, due to the presence of a greater or lesser amount of fluid. This collapse is not increased by the inrush of air as in the case of the establishing of an open pneumothorax. The lung air capacity is not diminished; on the contrary, as soon as fluid is sucked out of the chest, the lungs are correspondingly expanded. For this reason there is no danger in establishing the drainage even in the very earliest of cases in which no adhesions have as yet formed. The air tight method of treatment of acute empyema can be started and should be started as soon as the diagnosis of a purulent pleural fluid is established. (Numerous cases of pneumonia, especially in children, are accompanied by a pleural effusion which in many instances will disappear spontaneously or after one or two tappings. This fluid is a serous fluid, usually clear. This is not an empyema.) Thus, the method which avoids an open pneumothorax has for this very reason two great advantages—it is not dangerous, and can be started early in the disease.

All the pus which is drained from the empyema cavity is drained out through the drainage tube. As much or as little pus can be drained at any one time as is desired. If the presence of a large accumulation of fluid has caused respiratory embarrassment, enough pus can be evacuated slowly to relieve the respiratory difficulty. The child is carefully observed and at the very first indication of untoward symptoms arising from the relief of pressure the drainage is stopped.

The outflow of pus is so controlled that the dressings are not soiled. With the old method of rib resection and open drainage, the wound is continuously draining and the child is lying for the greatest part of the time in a sea of pus. With the air tight method the pus is drained off by means of a syringe or some other form of suction apparatus into some convenient receptacle. The dressings, which are applied at the time of insertion of the tube, are not soiled and are not changed for at least a week. After that time they are usually removed, the underlying skin cleaned with alcohol, carefully dried, and dressings reapplied, the tube, of course, being left in place. The twice daily dressings which are necessary in the case of open drainage are replaced by a single weekly dressing. The pus is aspirated as often as every two hours. At the same time that the pus is aspirated the Dakin's solution is instilled. Inasmuch as the drainage tube is a long one and

protrudes through the dressings, this can usually be done without disturbing the child at all. Thus, although the after-treatment requires as much or more attention on the part of the nurse in the case of the closed drainage, from the patient's point of view it is infinitely simpler.

As the pus is withdrawn a partial vacuum is produced. In the case of open drainage this is replaced with air; in the closed drainage this vacuum tends to expand the lung. Theoretically, at least, this should be a tremendous advantage inasmuch as the complete expansion of the lung and the obliteration of the empyema cavity is the goal of all treatment. Theoretically again, the cases should, therefore, get well quicker, encapsulations and the occurrence of chronic empyema should be less frequent. I, personally, believe this is to be the case. To prove this assertion would require a large group of cases derived from the same locality, and treated by the same group of attendants in the same hospital in which the cases were subjected alternately to the open and closed method. Most statistics cited to prove the contentions of the advocates of either method have been derived from separate groups of cases, treated by different surgeons, often in different hospitals and during different epidemics. The enormous variability in the course of acute empyema is known to every one and no conclusions are accurate unless drawn from a group admitted from the same source and treated with the same degree of care. During the War I adapted the closed method and since then I have felt that its advantages so far outweighed those of any other method, that I have been unwilling to subject alternate cases to the open drainage to prove these last named theories.

In conclusion, I wish to state that a certain selection of cases for the closed method is necessary. Some cases with a bronchial fistula will not tolerate the instillation of Dakin's solution. In other cases the bronchial fistula produces a pneumothorax from within, as it were, and it is obvious that all precautions to prevent the ingress of air through the drainage tube or wound cannot prevent this. In cases of this type it may frequently be necessary after a short trial to stop the closed method of drainage. Bronchial fistula, contrary to prevalent opinion, frequently heal as soon as artificial drainage is established. In those cases in which the closed method must be discontinued I make a long intercostal incision and then cover the opening into the chest wall with a large flap of dental rubber. The pus can readily escape and yet with each inspiration the rubber is sucked firmly against the wound, thus, in a way, overcoming many of the disadvantages of an open pneumothorax and virtually establishing closed drainage.

Conclusions: The advantages of the closed method of treatment of acute empyema over the open method are:

The procedure is simpler.

Does not require inhalation anesthesia.

Does not cause shock.

Does not produce an open pneumothorax and therefore, is not dangerous even in early cases.

Does not produce collapse of the lung.

Does not cause sudden changes in intrathoracic pressure relationship.

The drainage tends to expand the lung.

The dressings are clean and need be changed but once a week.

The drainage and irrigation of the cavity can be carried out without disturbing the patient.

Theoretically, at least, the occurrance of encapsulation and chronic empyema is less likely.

THE PREVENTION OF POST-OPERATIVE INTESTINAL INCOMPETENCE*

LeRoy Long, M. D.,
Dean and Professor of Surgery, University of Oklahoma, School of Medicine
OKLAHOMA CITY, OKLAHOMA

In discussing this subject I have in mind a condition in which there is cessation of the normal mechanical functions of the intestinal tract after an abdominal operation. It is assumed that there is agreement as to the factors immediately concerned in its production, the pathology in the average case being represented by mechanical hindrances on the one hand, and by paresis of the intestinal musculature on the other hand.

In addition to what is revealed at autopsy, the clinical course of patients who have had the benefit of timely enterostomies furnishes extremely interesting and valuable information, and leads to the belief that actual mechanical barriers are, in the case of the average patient, of limited extent, and that they play a minor

*Read before the Inter-State Post Graduate Assembly of America, Milwaukee, Wis., Oct. 27-31, 1924.

have found that after an abdominal operation the intestinal tract is always damaged to a certain extent. In many instances, it has been terribly damaged, and, like any other crippled organ—like the hand, for example, or the foot—when it is crippled it can not function. If the hand or the foot or a limb is traumatized it is permitted to rest. It is not only permitted to rest, but steps are taken in the way of support and protection so that it will be the better able to rest. The situation is not exactly analogous, because the jeopardy to which these members are exposed without protection represents to only a slight degree the jeopardy to which the gastro-intestinal tract, without an adequate sensory nerve supply, is exposed after many abdominal operations. Instead of the orderly peristaltic movements in the proper and normal manner and in the proper and normal direction, originating in a proper and normal way, there are confused, conflicting, spasmodic efforts in many areas on account of irritation of the intrinsic ganglia of the intestine, and on account of the damaged blood supply through which the cellular structures in certain parts of it are, for the time being, at least, robbed of pabulum necessary for even the least function. In the presence of such a pathological condition, any agent that causes irritation aggravates the abnormal efforts, and in the case of some patients, if the aggravation is kept up, it leads to disaster.

Cathartics are irritants. These agents act through the process of irritation, and since irritants aggravate the existing abnormal movements of the intestinal tract after abdominal operation, they should not be given. While most of the patients to whom they are given may escape with their lives, a certain number will not be able to bear the additional insult, and the only hope for them will be in the performance of an appropriate emergency operation for the relief of complete intestinal incompetence. So thoroughly do I believe this, that I would consider it just as reasonable to order a patient with a broken leg to jump out of bed and try to run a race as to order a cathartic for a patient who has just had an abodminal operation.

Taking into consideration the pathology, the intestinal tract should be permitted to rest. There is no reason to get excited about moving the bowels. In my clinic we do not bother about moving the bowels. Frequently, if the patient is let alone, the situation will take care of itself. If not, after all evidences of irritation are gone—usually on the fourth or fifth day—a low enema of one pint of plain warm water is given—nothing else. This is repeated daily as necessary—never more than one pint—usually never more often than once a day. The result is that the post-operative course is characterized by comparative comfort and happiness.

Stimulating enemata are not quite as bad as cathartics because the small bowel is not directly involved, but since they produce their effects through irritation they are bad. They are bad for the same reason that cathartics are bad—because they irritate a crippled intestine that ought to rest, and in that way interfere with the resumption of lost tone and the establishment of proper function.

I am often asked what should be done in the unfortunate case in which there is rapid development of distressing and dangerous gastro-intestinal symptoms soon after operation. In such a case, the patient vomits frequently, there is pain and great abdominal distention. No flatus is expelled. This condition, with the pain and repeated vomiting, and great tympany, surely presents a situation that should be approached with care. The patient in this condition has a potential incompetence. It is in just exactly this kind of situation that cathartics and enemata and pituitrin, or some other powerful agent are often employed upon the altogether unreasonable and dangerous theory that the gastro-intestinal tract can be forced to function, and the average result is disaster. The application of such measures runs counter to every sound and reasonable conception of the pathology.

What should be done for the patient in this condition?

1. Wash out the stomach. Repeat the lavage every two or three or four hours, if necessary, until the material returned does not indicate regurgitation of intestinal contents, or, if it is preferred, introduce a duodenal tube and let it stay in, the necessity being to keep the stomach, and incidentally, the upper intestine as free as possible of toxic material.

2. Give morphin, and repeat it often enough to keep the patient comfortable.

3. Give water by protoclysis, hypodermoclysis, or some other appropriate way.

4. Give nothing by mouth.

5. Introduce the end of a colon tube just well above the sphincter occasionally, and let it remain for an hour or two.

If these things are carried out methodically, and if the patient has the ordinary care and protection that any very sick individual should have, the vomiting will cease, in the course of some hours the distention will begin to disappear, the patient will require morphin less and less often, and in a day or two the surgeon will be able to write on the progress sheet "Condition satisfactory."

Let me assure you that this, as far as I am concerned, is not a theoretical discussion. For nearly fourteen years I have not employed cathartics after abdominal operations. I have tried to put into application the requirements of rest and sleep and water. This plan has stood the test over a considerable period of time. I believe in it with all my soul. I believe that through its application lives are saved. I trust that those who do not agree with me will ponder what I have said, for I am convinced that in this way it is possible to prevent intestinal incompetence after the average abdominal operation.

MENSTRUATION IN A MALE

Dr. W. D. Halliburton (*Weekly Med. Rev.*, 1895, 1, No. 49) was consulted by a druggist, aged 26 years, who stated that he had menstruated regularly since he was nineteen years of age. The attacks came on with great regularity every month, but at times he missed a period or went one or two weeks over time. These attacks were preceded by severe pain in the back and lower part of the abdomen. This lasted from 24 to 48 hours, during which time he could scarcely endure the pain. Then followed a muco-purulent discharge, streaked with blood, from the penis, lasting four or five days.

The penis and testes were well developed. He was married and had one child. He enjoyed sexual intercourse naturally.

He had rather a feminine disposition, wore a corset, could do any kind of sewing or house work, and felt as much at home in a "Mother-hubbard" as with his pants on.

He had a small waist and broad pelvis, no mammary development and a respectable growth of beard. —*Practical Med.*, Delhi, India, May, 1924.

PETRIFIED

Horace—"What did your wife have to say when you came in at four this morning?"

Maurice—"Didn't have a word to say."

Horace—"'S matter, tongue-tied?"

Maurice—"No, I put cement in her beauty clay."—*Bear Skin.*

Society Proceedings

ADAMS COUNTY

Meeting of April 13, 1925

The meeting was called to order at 8:20 P. M. at the Chamber of Commerce with Dr. C. D. Center, president, in the Chair. There were 41 members present.

The secretary made a motion that the minutes of the last meeting be approved as published in the April *Bulletin*. Seconded and carried. The Secretary called the attention of the society to the correspondence that had been received during the month as published in the April *Bulletin*. Dr. Knox made a motion that the society cooperate with the Quincy Public Health District in the matter of Public Health Week. Seconded and carried. Dr. Nickerson made a motion that the Public Health Committee be given full power in regard to observing Health Week. Seconded and carried. Dr. Wells made a motion that the Program Committee be given full power to decide whether or not to have a motion picture demonstration as per the request of the H. S. Fisher Co. Seconded and carried. The Secretary called the attention of the Members to the fact that the Legislative Committee of the Illinois State Medical Society is publishing a weekly bulletin in regard to the Legislative situation in Springfield at the present time and that several important bills to which the medical profession should make protest are pending. Dr. Nickerson made a motion that the Public Health and Legislative Committees be given full power to look after the legislative situation. Seconded and carried. Inasmuch as the dentists had extended a challenge to the physicians for a bowling and golf match, Dr. Koch made a motion that the entire matter be turned over to the Social and Entertainment Committee to accept the challenge or not. Seconded and carried. Dr. Knox stated that the Board of Censors were not as yet ready to report on the application of Dr. Tully Snider for membership in the society. Dr. Wells made a plea for the members to pay up their pledges that they had made for the support of the Illinois State Medical Society Convention next month.

Dr. F. H. Falls of Iowa City, Ia., gave a very interesting talk on the "Management of Breech Presentation," which was followed by a motion picture demonstration of films that had been taken in Vienna, illustrating the subject. This was followed by a paper by Dr. F. T. Brenner on "How We Can Reduce the Maternal Mortality in Obstetrics." The discussion on these papers was opened by Drs. Wells and Aldo Germann followed by a lengthy discussion by Dr. Falls who discussed Dr. Brenner's paper in detail. A general discussion of both papers then followed in which the following members took part: Drs. A. Bitter, Bierne, Baker, Koch, Williams, Blan and Bryant, the discussion being closed by Drs. Falls and Brenner. Dr. Falls then showed another motion picture on Cesarean operation done under local anesthesia and craniotomy in various obstetric conditions.

Dr. Bryant of Clayton gave a short case report of a case of breech presentation. Due to the lateness of hour Dr. Center did not give his case report. Dr. Pollard made a motion that the Chair appoint a committee of three to name an Orthopedic surgeon to conduct the clinic for crippled children to be held from time to time at Blessing Hospital of this city in conjunction with the Illinois Society for Crippled Children. The motion was not seconded and hence lost. Dr. Koch made a motion that we extend Dr. Falls a rising vote of thanks for coming to Quincy to address the society. Seconded and carried. Adjournment was then made at 11:45 P. M. This was the first meeting entirely devoted to obstetrics that has been held in many years and it was the sentiment of the members that it was one of the most interesting meetings that we have had in a long time.

HAROLD SWANBERG, M. D.,
Secretary.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Diagnostic Clinic, April 8, 1925

Cases of Gastric Syphilis.....A. A. Goldsmith
Asthenic Children .....I. A. Abt
Cases of Syphilis Offering Some Problems in Diagnosis and Treatment.....David Lieberthal

Meeting Under the Auspices of the Northwest Branch, April 15, 1925

1. Duodenal Obstruction Due to Harris Bands....
.....George O. Solem
Discussion—E. E. Henderson
2. Primary Carcinoma of the Lung, With a Report of Case and Demonstration of Slides.....
.....George H. Schroeder
Discussion—Frederick Tice, Theo. Tieken

Regular Meeting, April 22, 1925

The Use of Intravenous Germicides in the Treatment of General and Local Infections and Infectious Diseases .....Hugh H. Young
Johns Hopkins Hospital, Baltimore, Md.
Discussion—Frank M. Phifer, Harry Culver, Irvin S. Koll

Diagnostic Clinic, April 29, 1925

1. Stuttering and Stammering—The Nature, Mechanism and Principles of Treatment..Meyer Solomon
2. Surgical Clinic—Report of Abdominal Cases....
.....Chas. E. Humiston
3. The Diagnosis and the Treatment of Carcinoma of the Cervix.....Henry Schmitz

DEKALB COUNTY

April 9, 1925, The DeKalb County Medical Society, with twenty-four present, met at the Glidden Hospital, DeKalb, Ill.

Following the dinner, served by the Hospital, Vice-President S. L. Anderson called the meeting to order. Dr. Howard M. Edwards of Lee and Dr. Deane F. Brooke of Genoa were unanimously elected members of the Society.

A letter from President Geo. W. Nesbitt was read, asking that he be relieved of the duty of presiding at the meetings.

Moved by Dr. R. A. Wright and seconded by Dr. E. B. Neff that this request be granted, but that Dr. Nesbitt be retained as president during 1925 and cordially invited to attend all meetings. The motion was unanimously carried. Moved by Dr. J. W. Ovitz and seconded by Dr. J. A. Badgly that the closing of our offices at noon Thursdays from May 1st to Oct. 1st be made a county affair; carried.

Dr. Emery B. Neff of DeKalb gave a most able lecture on the "X-Ray Diagnosis of Gastro-intestinal Conditions," illustrating the same by means of x-ray films. Dr. S. L. Anderson led the discussion on this subject.

Dr. J. S. Rankin gave a very interesting lecture on the "Value of the X-Ray in Fractures." Dr. Rankin's talk was also illustrated by x-ray films of the different cases the doctor has attended.

A rising vote of thanks was given Miss Medendorp, the superintendent of the Hospital and her assistants for the royal entertainment.

CLIFFORD E. SMITH,
Secretary.

ROCK ISLAND AND SCOTT COUNTY

The Rock Island and Scott County Medical Societies met in Moline, Ill., in joint session, Tuesday, April 14, 1925, at the Leclaire Hotel. Dinner was served at 6:30 to eighty physicians, and an excellent program given by Dr. D. R. Bergman of the Mayo Clinic, Rochester, Minn., and Dr. Chas. Elliott, Chicago, Ill., goiter specialist.

Dr. Bergman's address was on "Practical Considerations in the Diagnosis of Chronic Abdominal Disease."

Dr. Elliott's address was on "The Treatment of Hyperthyroidism." Both addresses were well received.

A moving picture featuring the importance of periodical health examinations was viewed by the physicians immediately after the addresses.

The following officers were elected for the year: president, Dr. A. E. Williams, Rock Island; first vice-president, Dr. D. R. Nelson, Moline; vice-president, Dr. R. W. Hardinger, East Moline; secretary, Dr. J. H. Fowler; treasurer, Dr. C. C. Ellis, Moline; medico legal advisor and delegate, Dr. A. T. Liepold, Moline; alternate, Dr. Williams, Rock Island.

DR. J. HENRY FOWLER.

Marriages

SILBER C. PEACOCK, Chicago, to Miss Ruth Sarah Pearce of Bowen, Ill., at Galesburg, March 28.

JOHN RITTER SUTTER to Miss Elizabeth Katherine Drexelius, both of Edwardsville, Ill., at St. Louis, March 7.

Personals

Dr. Harry E. Mock addressed the Chicago Society of Industrial Medicine and Surgery April 6 on "Trauma and Malignancy."

Dr. Robert P. Parsons, U. S. N., Great Lakes, Ill., addressed the Chicago Neurological Society, April 16, on "Tryparsamide and Sulpharsphenamin in the treatment of Neurosyphilis."

Dr. William R. MacAusland, Boston, addressed a joint meeting of the Chicago Orthopedic Club and Railroad Surgeons at the University Club, April 10, on "The Present Status of Arthroplasty."

Dr. Jacob J. Mendelsohn addressed the Chicago Tuberculosis Society, April 16, on "Some Phases of Tuberculosis Dispensary Work," and Dr. Alexander A. Maximow on "Tuberculosis in Vitro."

Dr. Ludvig Hektoen and William H. Welker, Ph.D., addressed the Chicago Pathological Society, April 13, on "Crystalline Proteins in the Urine."

Dr. Dean Lewis, formerly professor of surgery, Rush Medical College, and recently at the University of Illinois College of Medicine, has been appointed professor of surgey at Johns Hopkins University Medical Department, and surgeon-in-chief, Johns Hopkins Hospital, Baltimore, to succeed the late Dr. William S. Halstead. Dr. Lewis will take up his new duties in September.

News Notes

—The contract has been let for the $1,000,000 addition to the Augustana Hospital.

—Passavant Hospital will not receive patients after May 1. This hospital will conduct a drive for $1,000,000 for a new building.

—West side professional schools more than reached their goal of $100,000, in March, for the new West Side Student Y. M. C. A. This, with $50,000 raised by the students themselves and $50,000 donated by Dr. Truman W. Brophy, makes $200,000 toward the $750,000 building to be erected at Congress and Wood streets. The schools participating were Rush Medical College; the medical, dental and pharmacy schools of the University of Illinois; the Chicago College of Medicine and Surgery, and the Chicago College of Dental Surgery. Each of ten physicians provided one $1,500 room in the new building, as did the staff of the Norwegian-American Hospital.

—The American Legion is conducting a campaign to raise an endowment fund of $5,000,000, the income of which will guarantee a perpetual financial basis for the Legion's program of rehabilitation and child welfare. The American Legion is working to restore to health every man who suffered wounds, disease and shock incident to war. Intended to supplement the work of the government, the American Legion Rehabilitation Service will go on so long as there is a legionnaire. In providing a home for the orphan of every man who fell in the nation's service, the Legion seeks the assistance of every established agency devoted to child welfare, and to all such it will give assistance. The physicians of Cook County have been asked to contribute to this endowment fund a total of $25,000. Dr. John S. Nagel, 25 East Washington Street, is chairman of the medical division.

—In its thirty-fifth annual report, the Visiting Nurse Association of Chicago is defined as a field hospital furnishing skilled nursing to the sick in their homes, no nursing being given in any home after the first visit unless there is a physician in attendance. The association made 255,080 visits in homes in this city during 1924. There was an average of six visits to each patient, of whom nearly 13,000 were mothers and newborn babies. Visits are free to the poor, but a minimum charge is made to patients who can pay a small fee. An insurance company and four corporations in Chicago pay the association for visiting their sick industrial policyholders and employees. There are endowed nurses, special endowments in the form of memorial, scholarship, or relief funds and nurses supported by special subscriptions. The association has no paid solicitors, the entire budget being raised by the directors by personal solicitation. The association is in a normal financial condition, more than $50,000 being added to its endowment in 1924. The amount necessary to endow the support of a nurse is $30,000.

—The Association for the Study of Allergy

will meet in the Japanese room of the Ambassador Hotel in Atlantic City, Tuesday, May 26, at 9 a. m. in connection with the annual meeting of the American Association.

—L. S. Matthews and Company have removed to larger quarters at 3554 Olive Street, St. Louis.

—The new Franklin Boulevard Hospital and Training School for Nurses, located at 3230-40 Franklin Boulevard, is now in operation with 85 bed capacity and complete modern equipment. Inspection by members of the medical society is cordially invited.

—The next examination conducted by the American Board of Otolaryngology will be held at the Ambassador Hotel, Atlantic City, on Tuesday, May 26, at 9 a. m.

—Application blanks may be obtained from Dr. H. W. Loeb, Secretary, 1402 South Grand Boulevard, St. Louis, Missouri.

DEATHS

Isaac N. Albright, Chicago; Albany Medical College, 1885; aged 70; died, March 22, of organic heart disease.

Frank E. Auten, Belleville, Ill.; University of Pennsylvania School of Medicine, Philadelphia, 1895; a Fellow A. M. A.; member of the American Academy of Ophthalmology and Oto-Laryngology; aged 61; died, Dec. 21, 1924.

Homer Markwell Clark, El Paso, Ill.; Chicago Medical School, 1922; aged 39; died, March 10.

Alfonso Clemens Czibulka, Warren, Ill.; University of Vermont College of Medicine, Burlington, 1889; Spanish-American War veteran; aged 56; died, March 25, of pneumonia.

Charles Wellington Fallis, Danville, Ill.; College of Physicians and Surgeons, Chicago, 1885; aged 64; died, March 16, at St. Elizabeth's Hospital, of heart disease.

Harry Gilbert Martin, Chicago; Harvey Medical College, Chicago, 1902; aged 49; died, March 29, of heart disease.

Edwy C. Ogden, Joliet, Ill.; Hahnemann Medical College and Hospital, Chicago, 1879; aged 65; died, February 28.

Ira J. Sexton, Summerfield, Ill.; Jenner Medical College, Chicago, 1912; a Fellow A. M. A.; aged 50; died, March 10, at St. Louis, of angina pectoris.

Elmer E. Tansey, Chicago; Rush Medical College, Chicago, 1895; a Fellow A. M. A.; formerly on the staffs of the Washington Park and South Chicago hospitals; aged 60; died, April 7, of renal calculus and nephritis.

G. Wilbert Watts, Chicago; Northwestern University Medical School, Chicago, 1894; aged 55; died, March 26, of bronchopneumonia.

John Alfred Wheeler, Lincoln, Ill.; Northwestern University Medical School, Chicago, 1896; a Fellow A. M. A.; formerly member of the state legislature; medical director of the Lincoln State School and Colony for Feeble-Minded, where he died, April 3, of coronary thrombosis, following bronchopneumonia, aged 53.

William Edwin Winskel, Chicago; Trinity Medical College, Toronto, Ont., Canada, 1877; aged 71; died, in February, at the South Chicago Hospital, of cerebral hemorrhage.

Frederick Henry Yorke, Foosland, Ill., Rush Medical College, Chicago, 1885; aged 75; died, March 17, of heart disease.

John S. Lewis, Carbondale, Ill.; American Medical College, St. Louis, 1878; formerly a bank president; aged 73; died, March, 2.

Thomas James Watkins, Chicago; well known as a leader in gynecology, died suddenly of heart disease while in his office, April 1, aged 61 years. He was born in Utica, N. Y., July 6, 1863; was graduated at the Adams (N. Y.) Collegiate Institute, and attended the Medical Department of the University of Michigan from 1880 to 1883, receiving his degree in medicine from the Bellevue Hospital Medical College of New York University in 1886. After serving an internship at St. Peter's Hospital, Brooklyn, from 1886 to 1888, and at the Woman's Hospital of New York State from 1888 to 1889, he became assistant in gynecology at Northwestern University Medical School, in Chicago, serving in this position until 1896, at which time he became associate professor of gynecology. In 1900, he was made clinical professor, and since 1916 has been professor. He had served as attending gynecologist at St. Luke's since 1894; at the Wesley Hospital from 1896 to 1914, and at the Mercy Hospital from 1900 to 1909. He was a member and ex-president of the American Gynecological Society, a fellow of the Institute of Medicine of Chicago, and an active worker in local medical organizations. In 1919, he was chairman of the Section on Obstetrics, Gynecology and Abdominal Surgery of the American Medical Association. Dr. Watkins was well known as a highminded leader in the affairs of medicine in his community, and also as an inspiring teacher of the many students who were members of his classes during the thirty-four years of his association with Northwestern University.

Joseph Ingram Mershon, Mt. Carroll, Ill.; University of Illinois, College of Medicine, 1912; intern at University and North Chicago Hospitals, engaged in General Practice at Mt. Carroll, Ill., for a number of years, recently specializing in eye, ear, nose and throat at Marshfield, Oregon, died in Good Samaritan Hospital, Portland, Oregon, of atrophy of the liver, March 22, 1925, following an exploratory operation, aged 41 years.